Textile Industries

Formerly "COTTON"

A W. R. C. Smith Publication

JULY, 1953

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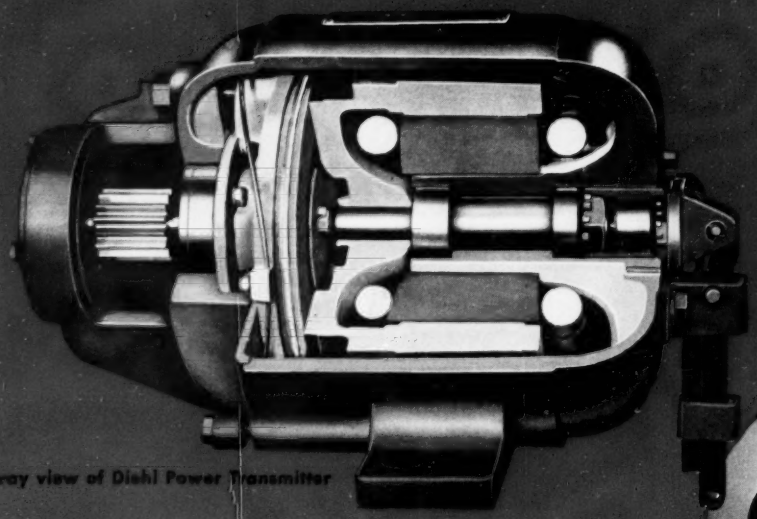
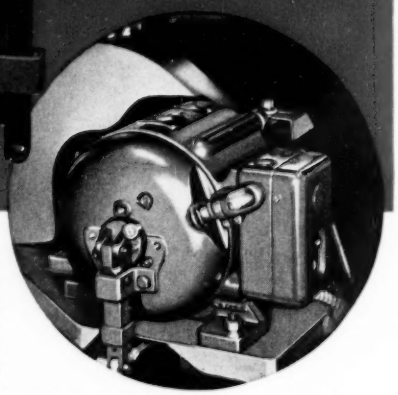
Diehl POWER TRANSMITTER FOR YOUR LOOMS

. . . assures maximum weaving speeds with peak operating efficiency!



Cut-away view of Diehl Power Transmitter



Note the *inverted rotor*, which revolves around the outside of the stator on a hollow shaft. Provides the essential high inertia without the mechanical disadvantages of a separate fly wheel.

Pinion driving shaft, to which clutch plate is fastened, passes through hollow rotor shaft and is shifted axially by simple lever at front end of motor, thus controlling clutch engagement pressure and eliminates thrust bearing on the loom.

Cork friction rings are mounted on both sides of clutch plate, which may be shifted by shipper handle linkage to contact either the rotor or cast iron brake shoe, thus starting or stopping the loom.

The Diehl Power Transmitter is a unit comprised of an inverted high inertia motor, a clutch and a brake – integrated to provide a compact "power package" that meets the industry's need for ample, consistent power with instantaneous precise operating control.

Leading textile mills are using thousands of Diehl Power Transmitters on looms made by the DRAPER CORPORATION of Hopedale, Mass. – many of which have been in continuous use for as much as five years!

Mill men are enthusiastic about the advantages derived from the use of the Diehl Power Transmitter, including . . .

- "Stored power" for smooth, rapid starts and positive picking.
- Precision Braking.
- Minimum fluctuations of speed and motor current.
- Lower power consumption.
- Lower motor heat losses.
- Lack of current regeneration.
- Simplicity and ease of maintenance which has resulted in increased work loads for fixers and weavers at many mills.

. . . all of which adds up to increased *mill production, improved quality of cloth, lowered operating costs and long, trouble-free service.*

We will welcome an opportunity to tell you – without obligation – how the Diehl Power Transmitter can bring these benefits to you.

2199

DIEHL MANUFACTURING COMPANY

Electrical Division of THE SINGER MANUFACTURING COMPANY

FINDERNE PLANT, SOMERVILLE, NEW JERSEY

ATLANTA • BALTIMORE • BOSTON • CHICAGO • DETROIT • NEW YORK • PHILADELPHIA • WORCESTER

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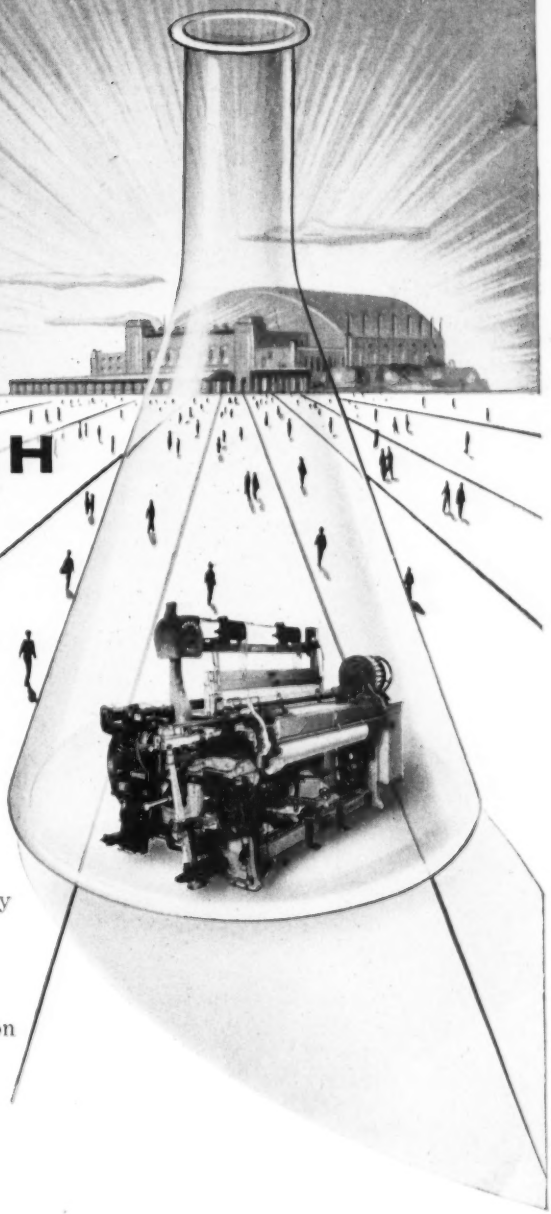
Volume 117 Number 7

FOCAL POINT OF PROGRESS

...RESEARCH



While Draper Research is carried on throughout the year, every year, the focal point of this program is the Textile Machinery Exhibition in Atlantic City. Here the best developments are exhibited to millmen — developments that will increase production and quality, decrease costs, save labor. Each machinery company and supplier will have on display the results of four years research.

Key operating personnel cannot afford to miss the American Textile Machinery Exhibition in Atlantic City, N. J. April 26-30, 1954.

In the meantime keep your looms in top operating condition with Draper Improved Repair Parts and Mechanisms.

"Retaining Leadership through Research"

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ATLANTA, GA. HOPEDALE, MASS. SPARTANBURG, S.C.

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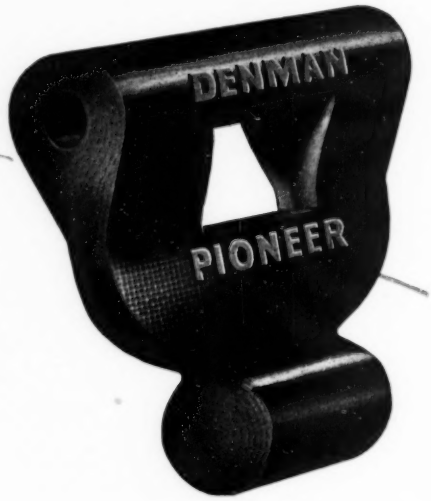

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Besides long lasting qualities, DENMAN PIONEER Pickers are precision made to give perfect shuttle throw without damage to other loom parts.

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DENMAN Tire and Rubber Co.

Exclusive Sales Representative

THE TERRELL MACHINE COMPANY, INC.

CHARLOTTE, N. C.

Vol. 117, No. 7

Textile Industries

July, 1953

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John C. Fonville ..... *Editor*
J. Frank Guest ..... *Associate Editor*
Milton C. May ..... *Associate Editor*
Paul M. Platzman ..... *Associate Editor*
(22 Ridge Drive East, Flower Hill, Roslyn, N. Y.)
George H. Dockray ..... *Associate Editor*
(604 West Warren St., Shelby, N. C.)
H. B. Anderson ..... *Associate Editor*
J. A. Moody ..... *Production Manager*
EDITORIAL AND EXECUTIVE OFFICES: 806 Peachtree St., N. E., Atlanta 5, Georgia

NBP ABC CCA

John C. Cook ..... *Business Manager*
Walter M. Mitchell, Jr. ..... *Assistant*

Business Representatives In U. S. A.

BOSTON—Arthur C. Shaw, *11 Monroe Rd., Wellesley Hills, Mass. (Phone: Wellesley 5-3643).*

NEW YORK—William K. Hoffman, *58 Euclid Ave., Maplewood, N. J. (Phone: South Orange 2-2484).*

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LOS ANGELES—L. B. Chappell, *6399 Wilshire Boulevard, Los Angeles 48, Calif. (Webster 3-9241).*

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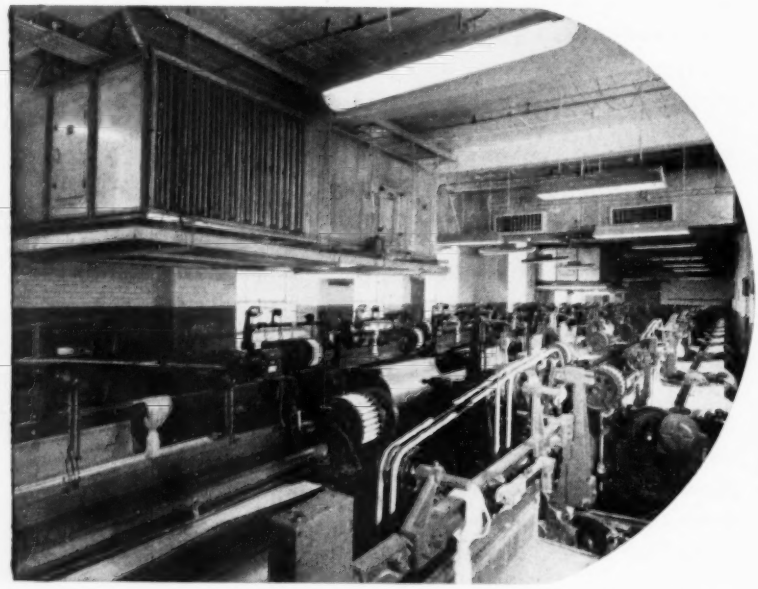
air conditioning
SPECIALISTS
for the textile industry



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Highly technical as it is, industrial air conditioning has always been the work of specialists. White and Company has closely followed each new development in the air conditioning field and passed the benefits along to the foresighted mill operators who have steadily increased their profits with WHITE air conditioning.

With 25 years experience designing, installing and servicing air conditioning for the Textile Industry, White and Company is prepared to install in your plant any of the following air conditioning systems:

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Shorts and Remnants

► Some people blame publishers for everything, and now we're getting complaints about the 4th of July falling on a Saturday. Although some hotels skip from the 12th to the 14th story to humor superstitious persons and the Democrats changed the date of Thanksgiving, even the Republicans and the publishers can't make July 4 come on the 3rd.

► While little can be done about this one, the Commodity Standards Division of the Department of Commerce has reported that age has a more powerful effect upon women's body measurements than almost any other factor. All of the critical measurements (select your own) increased up to a certain age and then they reversed their direction. For an informative evening, write for TS-5200.

► Some other folks must have planned interesting evenings because for an unexplained reason requests depleted our supply of a particular '52 issue, and at this late date. Inquiries for the issue mentioned no particular article. Although we've searched for the answer, none is available. And we didn't consider the cheesecake in that issue especially good.

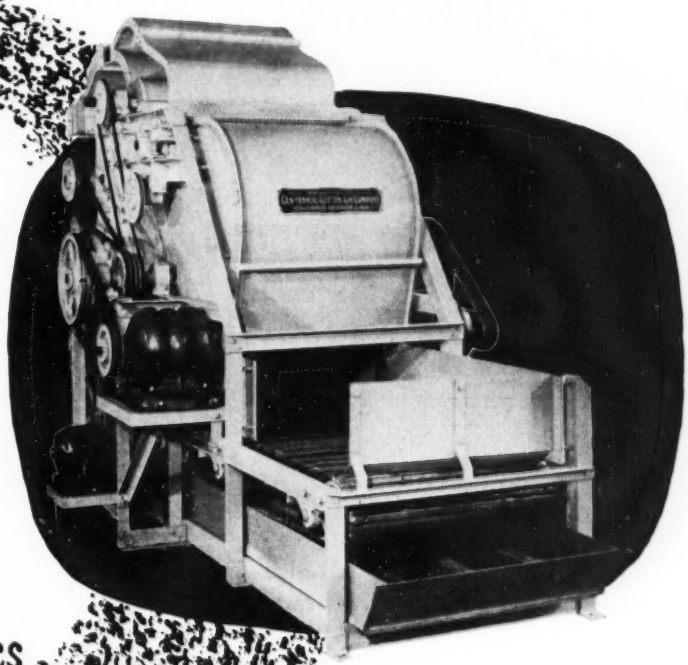
► From our good friend in Mississippi comes the request for names of mills processing a certain type of synthetic. We were able to tell him of a few which now run it, and also some which also ran. Another case of premature ballyhoo.

► Our own little ballyhoo. You can now get TI on microfilm for '50, '51, and '52 either from us or University Microfilm, Ann Arbor, Mich. Price $8.50 each. Subscriptions to TI are two bucks a year; looks as if the smaller it gets the more it costs. If we go king-size we'd have to give it away.

► Regularly do we read the general manager's message in a favorite mill employee publication. This time he opened his message by discussing "look and listen" at the railroad crossings. The editor of the publication must have taken the dissertation seriously, because the adjoining news

THE CEN-TENNIAL OPENER

THE ULTIMATE IN FIBRE SEPARATION



OPENS } COTTON
CLEANS } WOOL
BLENDS } SYNTHETICS

The Cen-Tennial Opener is a product based on research by Southern Regional Research Laboratory and thoroughly proven by mill experience. It reduces waste and neps, increases spinning efficiency and produces stronger and cleaner yarns. Dozens of installations attest to these results.

CEN-TENNIAL
COTTON GIN COMPANY

Columbus, Georgia

PROTECTS
MATERIALS
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JOHNSON
AUTOMATIC
temperature and humidity
CONTROL
in
ASPIRATING CABINETS

For use in spinning rooms, weaving rooms and other processing areas where precise regulation of temperature and humidity is required.

Johnson Aspirating Cabinets are equipped with a variety of Johnson Thermostats and Humidostats, together with the cumulators, relays, switches and blowers necessary to provide accurate control of temperature and humidity. These cabinets insure positive circulation of the sampled air over the controllers, while protecting the measuring elements and operating mechanisms from dust, lint and tampering.

Any desired combination of these features may be included in Johnson Aspirating Cabinets:

THERMOSTAT (Proportional Action) to operate Johnson Valves on heat sources with modulating action.

HUMIDOSTAT (Proportional Action) to control Johnson Valves on humidifying apparatus.

DOUBLE INLET BLOWER to insure accurate measurement of temperature and humidity in the treated space. Cabinet protects instruments against lint, dirt, vandalism and other influences which might affect the accuracy of control.

ELECTRIC SWITCH ASSEMBLY to provide a convenient connection for the blower motor.

TIMING PULSATOR to prevent over-humidification. Establishes "off" periods during which the Humidostat cannot demand humidifying effect.

ADJUSTABLE CUMULATOR in connection with the Humidostat and Timing Pulsator. Permits ready readjustment of the action of the Humidostat.

AIR FILTER (Dry screen or spun glass) to remove particles from the air which might adversely affect the action of the controlling instruments.

AVAILABLE
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ACCESSORIES

Week-end Control Selection
Recorder Stations
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Humidifiers { **Evaporating Pans** / **Spray Systems** / **Atomizing Systems** / **Perforated Pipes** }
Bull's Eye Indicators
Humidity Alarms
Switch-over Stations

For more complete details about Johnson's Aspirating Cabinets, send for Bulletin H-400. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branches in Principal Cities.

JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**
MANUFACTURE • APPLICATION • INSTALLATION • SINCE 1885

Shorts and Remnants

column told of a two-headed calf which was equipped to look both ways at a crossing.

► We served this air mail inquiry quickly because the writer said it was a matter of urgency. A brewer of lager beer wanted three reprints from TI, among them being "Automatic Sampling Equipment for Cotton" and "Screening for Weak Yarn." We wondered where all the yarn was being sold and noted a change in the taste of beer. But if they've found a new use for cotton, we hope they don't make neppy brew. Perhaps that dark brown taste the morning after comes from tar spots.

► A visitor to our booth at the recent Knitting Show was kind enough to stop by and tell us that TEXTILE INDUSTRIES is a good magamagazine. Being an honest and impartial guy, he ended the interview with, "But there was another good one too, called 'Cotton.'" Brother, that was us before 1947—in fact since 1898 "Cotton" and then TEXTILE INDUSTRIES have been known as the production and management magazine for all textiles, especially knitting.

► At the same show some of the mill men complained that few knitting machines were shown. Wouldn't have made any difference. With those Fidelity Machine Company girls around 'twas difficult to notice a knitter.

► Another fellow dropped by the booth and asked for one of our advertising salesmen so he could place a knitting ad in TI. A good place, we admit. But sorry, we told him, TI doesn't have salesmen—just a space patrol; advertising space patrol, that is.

► And while we're mentioning textile shows, don't forget that April comes earlier than usual next year. That's when the big Atlantic City Show will be held. So make your plans well in advance. There will be plenty for all levels of management and all key men to see and profit by. Plan to go and send Joe.

► From the National Cotton Council we learn that the ladies show a trend toward cotton in what used to be called unmentionables—those gar-

automatically self-cleaning Amco atomizer, No. 6

Preferred for its improved micro-spray

AMCO Atomizers at Chicopee Manufacturing Company, Manchester, N. H.

AMCO NO. 6 ATOMIZER broadcasts a smoke-like micro-spray which is projected to a great distance, intimately mixing with room air. Engineered to operate *only* at its most efficient point, the No. 6 atomizer allows no compromise with the quality of the spray under any conditions.

AMCO NO. 6 ATOMIZERS are made to close tolerances; of metals with proved resistance to erosion, corrosion and mechanical wear. They are automatically self-cleaning with each cycle of operation . . . and are of such simple, well engineered design that servicing, if required, is easily performed.

AMCO NO. 6 ATOMIZER is actuated by a highly sensitive humidity control, a product of Amco's advanced engineering and 65 years of experience with humidification problems. This control reacts faster than anything previously obtainable. It means relative humidity held to the exact specified percentage hour after hour, day in and day out, under *every* condition.

AMCO NO. 6 ATOMIZER can be used as original equipment or for replacement on all types of systems. Further details on request.

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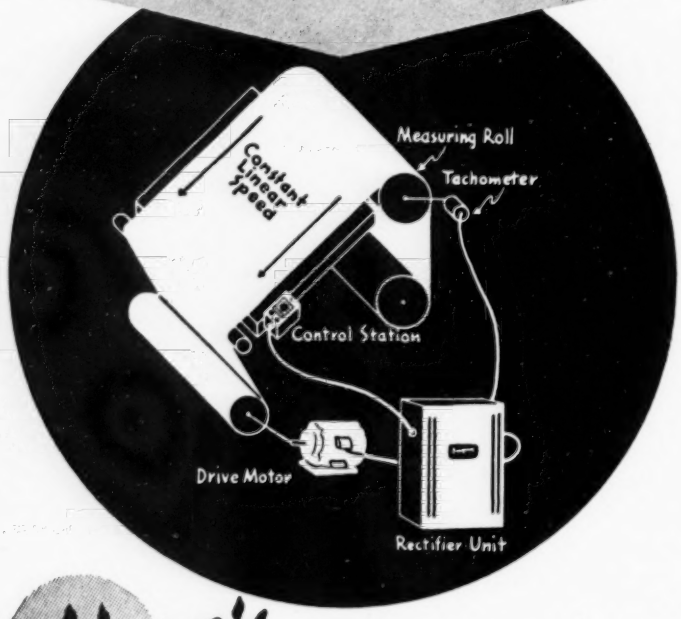

HERE'S HOW IT WORKS

. . . for Textile Inspection Tables & other constant surface speed applications

A small precision tachometer generator is used to sense a minute change in material surface speed so that the motor speed changes to restore or hold preset selected surface speed. Thus a constant linear feet per minute of material speed is achieved even though the radius of the windup roll increases with each turn to otherwise increase the linear speed versus radius buildup. The surface speed is now maintained constant by automatically reducing core speed. Optimum inspection speed may now be used for the entire inspection period with built in acceleration control preventing tension extremes at start of period.
Available for inspection tables in ¾ horsepower models for 220, 440 or 550 volt 60 cycle operation.

Other models of electronic motor speed control systems available from 1/50th to 3 horsepower.

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4 Godwin Ave. Paterson, N. J.

Shorts and Remnants

ments that hold the girls in place (their words, not ours). Appearance of cotton, among other reasons, is given as a compelling factor for the increase. We accept the Council's word on this trend because some verification surveys are outside TI's scope.

► Word comes that the working model of the world's first passenger conveyor system (for New York City) has been made. Remember when: years ago weavers used to sit on little wheel-mounted seats and push themselves from one end of their job to the other. A fixer or overseer could get run over if he got in the path.

► One of our junior executives recently was oblivious to all around him, sitting with his feet propped on the desk. Long range planning, he said; looking ten years ahead. Being progressive, TI encourages such. And besides, before the ten years are up the office boy can correct those plans and make them workable.

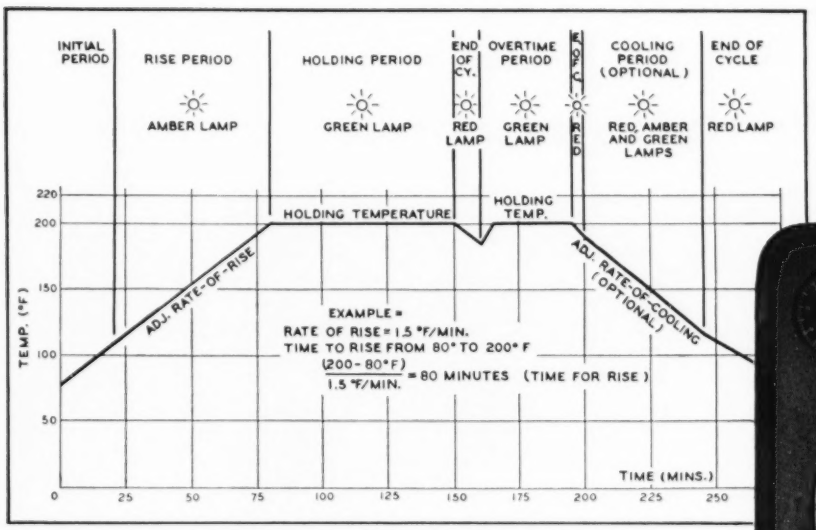
► The other day while S&R was thinking at the executive level (expression for a completely blank mind), in comes reports from three TI contributors that another publication had seen their bylines in TI and immediately written them asking for contributions. So you see, writing for TI guarantees at least one piece of fan mail.

► Another piece of mail to the editors pointed out an error. The sketch of a snapper was printed upside down. We grieved over it until the next day—when another letter came from a man who had seen the upside down cut, changed his snapper accordingly, and said it runs better that way. Part of our job is showing how new ideas work. Progress, we calls it.

► Intelligence briefed for July: A fellow of the Pineapple Research Institute in Hawaii will spend three months of his sabbatical leave in this country. Industry expenditures for new capital equipment in 1953 may well reach a record amount (says a source). Baby chicks have been hatched in Egypt for thousands of years in unique hatcheries that are highly efficient; operators staying in the hatcheries depend on their sensi-

No More DYE-BATH SHOCK

for Hosiery and Piece Goods



Typical Dyeing Schedule for Piece Goods using the new Foxboro Model 40 C-HC CycleLog Controller

. . . New Model CycleLog*

Automatically Controls Rate of Cooling as well as Rate of Rise

NOW YOU CAN PROTECT all your woven fabrics and hosiery from uneven shade, creasing, and crows-feet caused by too rapid cooling of the goods while hot and plastic. New Model 40 C-HC Controller carries out *every* temperature step in the dyeing schedule—duplicates uniformity in every batch.

Like the widely-used Model 40 C-A CycleLog Controller, the new Model 40 C-HC automatically brings the bath to "the boil" at the desired rate, and holds the dyeing temperature for the required period. In addition, this special new model controls *cooling* . . . gradually lowers bath temperature at the safest rate without waste of time. For complete information, write for Engineering Data Sheet 220-60.

**Trade Mark*

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FOXBORO REG. U. S. PAT. OFF. **CycleLog Controllers**

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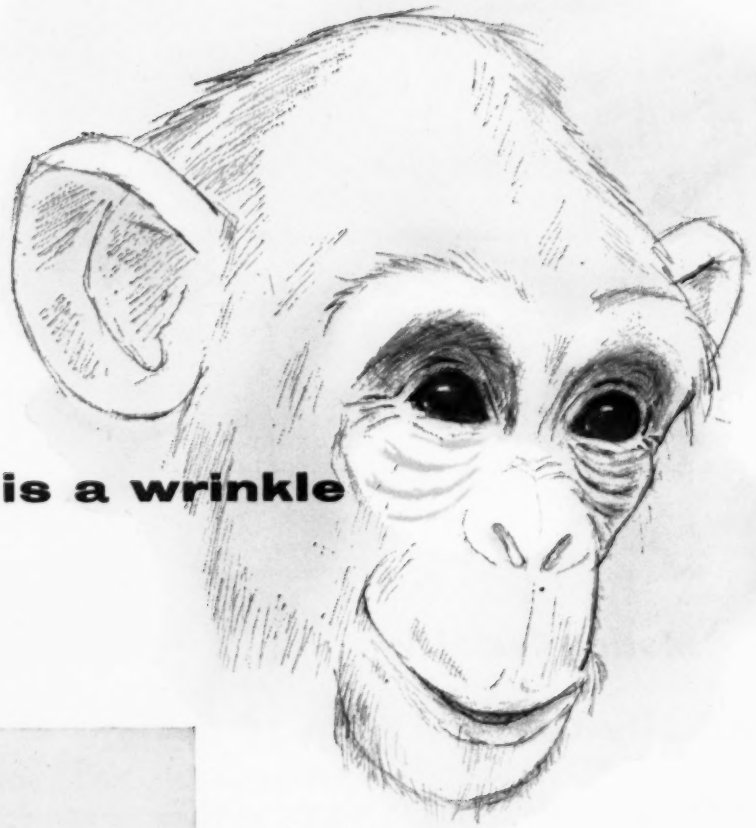

This is a wrinkle

A wrinkle has its "sometimes." Sometimes, on a monkey's face, for instance, it has a lot of charm. Sometimes, when it spoils the line of a skirt, the fit of a fabric, its nuisance value is considerable.

That's why Du Pont is proud to have contributed to the retirement of the wrinkle—through the scientific development of modern-living fibers. Nylon, "Orlon", "Dacron"... each in its way contributes to textiles the strength and the value of wrinkle resistance. These modern-living fibers offer customers what they want today—wearable, packable clothes, worry-free, wrinkle-free pleats, men's wear, women's wear, and home furnishings of extraordinarily care-free wrinkle resistance.

And wrinkle control is only one of the many better values for better living that you can count on when you create fabrics made from Du Pont's modern-living fibers.

DU PONT'S MODERN LIVING FIBERS

NYLON | RAYON | ACETATE | ORLON® ACRYLIC FIBER | DACRON® POLYESTER FIBER

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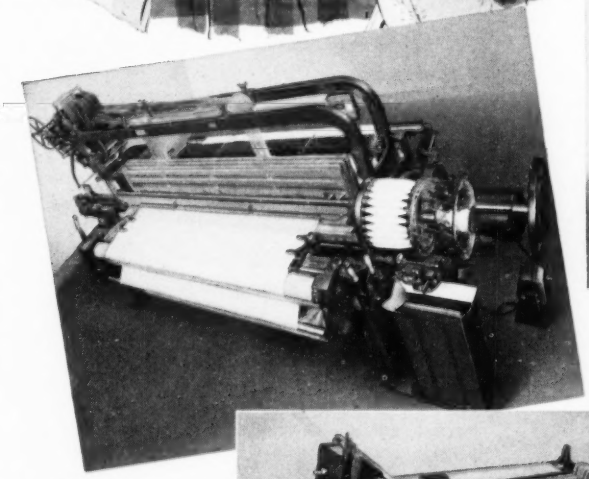
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Are You "ON THE HOOK"?

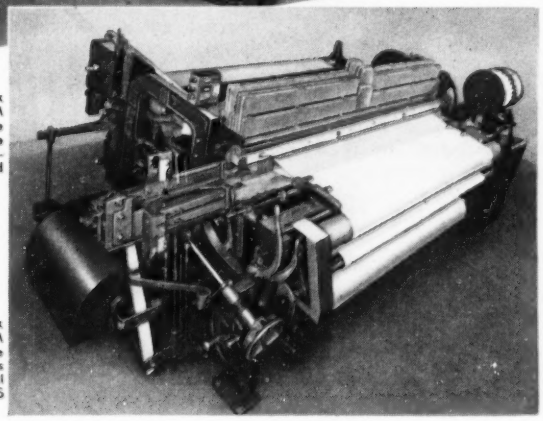
Fishing for a new merchandising sensation in one of the natural fibres . . . or one of the new synthetics . . . or a blend?

Then it will pay you to take counsel with C & K. For C & K's unmatched knowledge of box-loom weaving of *all types of fibres* . . . plus the world's longest line of looms, single or multi-color filling mixing . . . can quickly take you off the hook of indecision, and start you on your way to new profits.

Yes, C & K's complete line can give you *exactly* the loom-construction you need to do the finest job of producing the fabric-construction you have in mind. What's more, these looms are ready for delivery *now*, so there need be no delay. *See C & K today.*

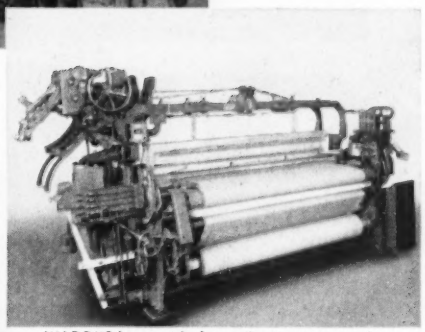


NEW SINGLE-PURPOSE C&K 2 x 1 BOX FILLING MIXING LOOM equipped with Rotary Magazine and *Head Motion* . . . one of the newest additions to C&K's *complete line* of performance-proved FM Looms.

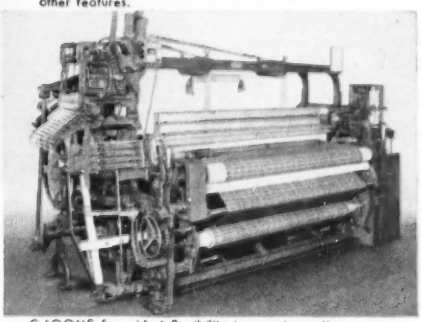


NEW SINGLE-PURPOSE C&K 2 x 1 BOX FILLING MIXING LOOM equipped with Rotary Magazine and *End Cam*. C&K also builds multi-purpose FM Looms with Call Box Feature (see W, C and S Looms below).

S LOOMS are the most modern machines for weaving nylons, rayons, acetates, combinations and pure silks. Built in all widths . . . call box . . . *filling mixing* . . . bobbin-changing . . . shuttle changing . . . many shuttle sizes . . . pick and pick . . . Jacquard . . . and what other features do you want?



W LOOMS for unmatched versatility in weaving woolens, worsteds, upholstery and blended fabrics. Made in all widths . . . bobbin-changing . . . *filling mixing* . . . tri-color . . . convertible . . . pick and pick . . . and many other features.



C LOOMS for widest flexibility in weaving cottons, spun rayons and blends for towels, blankets, decorative fabrics, bedspreads, handkerchiefs, shirtings, suitings, dress goods. Built in all widths . . . bobbin-changing . . . shuttle changing . . . convertible . . . tri-color . . . pick and pick . . . leno motions . . . all-purpose take-up . . . 30" beams . . . and many more C&K-engineered advantages.

Crompton & Knowles
LOOM WORKS

WORCESTER 1, MASSACHUSETTS, U. S. A.

Philadelphia, Pa. • Charlotte, N. C. • Allentown, Pa.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics . . . which are **WOVEN** Fabrics.

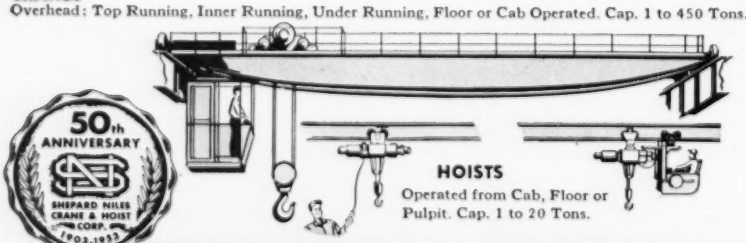
SHEPARD NILES CRANE

adds "Wings" to your work-in-process

Watch the way work speeds up when you install a Shepard Niles Crane in your plant! Why? Because through-the-air handling frees manpower for production—speeds the flow of materials—makes more floor space for men and machines. With a Shepard Niles Crane, you put unused ceilings to work—handle heaviest loads safely, easily, at low cost.

No doubt your plant would benefit from thrifty through-the-air handling. But which type of crane should you choose? Let the Shepard Niles representative help you in making this decision—he knows the importance of installing the right equipment from the start. Send for Bulletin describing Shepard Niles Cranes today—and arrange to have a representative stop by your office.

CRANES
Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated. Cap. 1 to 450 Tons.



HOISTS
Operated from Cab, Floor or Pulpit. Cap. 1 to 20 Tons.

SHEPARD NILES
CRANE AND HOIST CORPORATION

1935 SCHUYLER AVE., MONTOUR FALLS, N.Y.

Shorts and Remnants

tivity rather than thermometers. Corn starch serves as the carrier in aspirin tablets. Despite published figures, no one knows for sure what the income of the people of this country is; three different government departments can give you three different figures. Carpenters are paid more for knowing where to drive nails than for driving them. A new snap fastener is unaffected by laundering. A new margarine product retains its spreadability even when kept in the refrigerator. Charm Taupe is a color which harmonizes subtly with shoes in moonstone and smoked pearl grays. Paint spray guns which are no longer useful for their original purpose may be modified for sandblasting. A customer is not a cold statistic; he is flesh and blood too. Quote of the month from Quartermaster Review: "Technical articles, like babies, are easy to conceive but difficult to bear."

► Bear with us. And to all of you, a Glorious Fourth—even if it does come on Saturday. You have about 200 more pages to go, so Keep Your Eye on TI.

Likes TI

" . . . now taking three copies of TI . . . am at present considering dropping another magazine which we are taking for the overseers . . . like to replace it with yours. . . . "

PRESIDENT

► Name of mill withheld. Incidentally, TI does not recommend dropping any other textile magazine; we are glad that President prefers TI for himself and his overseers, but for the nominal yearly price of the other publications, mill men are sure to get their money's worth.

Well Executed

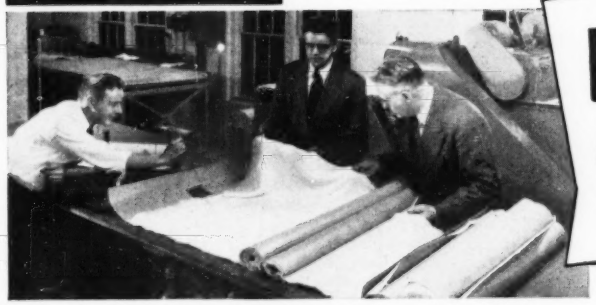
" . . . well conceived and well executed article on automatic cleaning of knitting machines. . . . "

JAMES F. NIELDS, JR.
Treasurer
Ware Knitters, Inc.
Ware, Mass.

Long Felt Need

" . . . may we congratulate you . . . 'Relation of Mill Processing Conditions to Yarn and Fabric Properties' . . . technical information relating to mill organization and quality of product fills a long felt need in present

WASTE FIBERS



Customers examining random web made from their own fibers.

RANDOM WEBS

MADE FROM YOUR FIBERS TO SEE...TEST...PRODUCE

STAPLE FIBERS

Part of the hundreds of different fibers and fiber blends sent in by prospects.

You can develop new products from random webs made with your waste or staple fibers, and so it will pay you to contact us. Twenty pounds of stock with specifications as to blend, weight, and quality of web desired will give you ample material with which to experiment.

LAMINATED FIBERS

Customer's sample web coming off the delivery apron of the Rando Webber.

A FEW PRODUCTS FROM RANDO-FEEDER · RANDO-WEBBER

- **Heavy mats (resin bonded or punched felt-type)**
  - a) floor backing
  - b) rug cushion and backing
  - c) insulation
- **Felt (pressed type)**
  - a) automotive grade
  - b) industrial grade
  - c) clothing accessory items
- **Industrial Non-Woven Fabrics**
  - a) laminate reinforcements
  - b) reinforcements for molded plastic articles
  - c) base for coated fabrics
  - d) tapes
  - e) filters
- **Wadding**
  - a) automotive grade
  - b) upholstery backing
  - c) packing materials
  - d) casket linings
  - e) clothing interlining
  - f) quilting interlining
  - g) surgical goods
- **Household Non-Woven Fabrics**
  - a) tapes
  - b) disposable household items
  - c) surgical items
  - d) disposable personal items

SYNTHETIC FIBERS

Critical examination of random web for texture, quality and uniformity.

WRITE for new Bulletin No. 102 suggesting products and ways to handle webs.

TEXTILE DIVISION

CURLATOR

CORPORATION

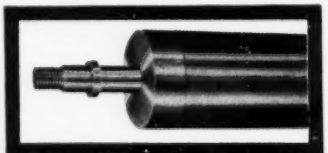
EAST ROCHESTER, NEW YORK

Mr. M. K. Emerson, U.P.D. vice-president in charge of printing, says they "are more than happy" with the Jenkins METLKOR Brushes which replaced other types of applicator rolls and brushes formerly used. And Frank Du Bois adds: "In any case, we wouldn't go back to the older type, less efficient brushes for anything in the world."

Such commendations from men who know, who demand the best brushes for a given job, is further assurance that you, too, can be certain of getting *the best brush for every textile brushing application* from Jenkins.

Our engineering services are available for analysis of your brush problems without charge or obligation.

Write or telephone your brush requirements.



The new METLKOR has stainless steel end plugs, is lighter, more corrosion-resistant. The stainless steel gudgeons and aluminum tubing are still retained.

This Nylon-filled Jenkins METLKOR furnisher brush shows the new and improved bronze end ring and stainless steel end plug.

M. W. JENKINS' SONS, INC.

Over Three-Quarters Century of Pioneering Brushes for Industry.

Cedar Grove, Essex County, New Jersey

TELEPHONE Vernon 9-8727

Shorts and Remnants

day manufacturing and is a big step toward realization of producing engineered yarns and fabrics . . . pleased to receive about 15 reprints. . . . "

LOUIS F. HAAGE
Institute of Applied Arts
and Sciences
Utica, N. Y.

► Although many reprints were made, demand has taken most of them.

Can You Sponsor?

" . . . help bring me in contact with textile (wool) mills in America . . . age 23 . . . textile school in Holland . . . experience in European mills . . . need sponsor to come over to America. . . . "

P. JANSSENS
c/o Mr. Muller
Atkinsinroad
Titrange (Auckland)
New Zealand

► Readers, especially those in woolen mills, who would like to contact Mr. Janssens with the end view of bringing him to America, may secure the full context of his letter from the editors.

Pictures Helpful

" . . . received today the three enlargements of the pictures used in the article (February) which you were kind enough to send us . . . appreciate your assistance. . . . "

H. W. BOLAND
Purchasing Department
Springs Cotton Mills
Lancaster, S. C.

Short and Long

" . . . interested in article on page 177 of April issue . . . 'Machine Clean-up Costs Reduced with Anti-Stick Coating' . . . please send more information. . . . "

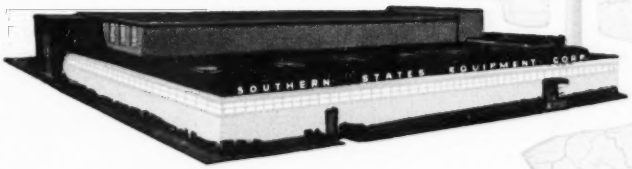
ROBERT M. BIGGS, Jr.
Plant Chemist
American Viscose Corp.
Front Royal, Va.

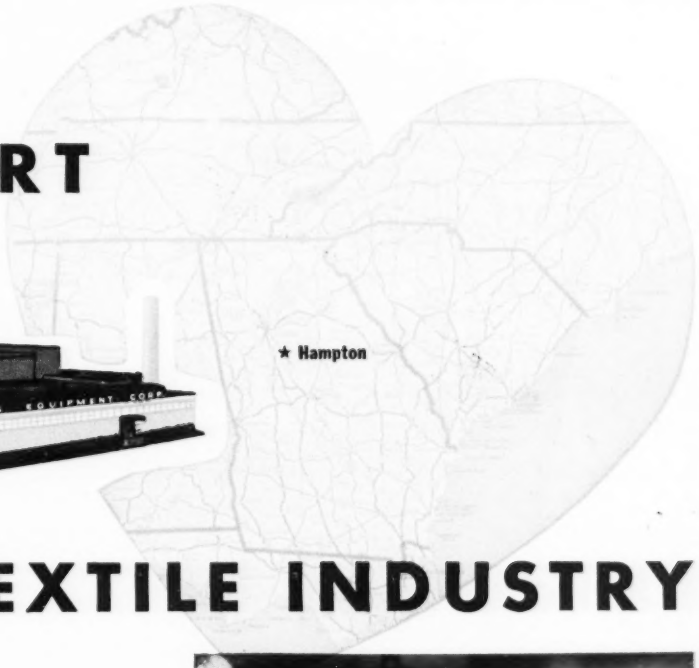
► April story was brief. June issue carried full story of Teflon.

Translate and Reprint

" . . . your publication contains an article (Research and Quality Control Pay Off by Earl Heard) of great interest and value not only to our association but also to all firms affiliated with the German Spinners' As-

in the HEART



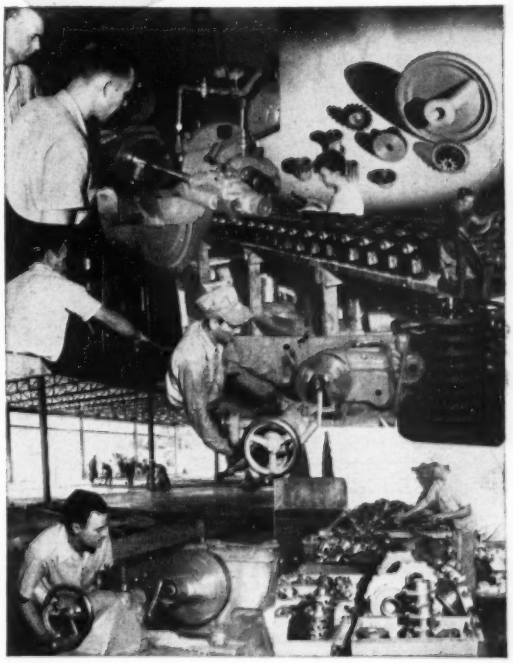


of the TEXTILE INDUSTRY

To meet the ever increasing demands for Southern States replacement parts and textile specialties, a substantial expansion of manufacturing facilities has been completed. Located in the heart of the rapidly expanding textile industry, Southern States offers complete engineering and fabrication service on replacement parts. These new facilities make it possible for a large number of the more rapidly wearing parts for preparatory equipment to be shipped from stock.

Working closely with textile manufacturers, Southern States engineers have developed such money saving devices as the Type C-1 Ball Bearing Comb Box, Off End Stand, the new SS Individual Card Drive and Coiler Conversion Units for cards and drawing frames.

An integral part of the textile industry for more than 40 years, Southern States is now equipped to serve you better than ever.



Southern States SS **Equipment Corp.**
HAMPTON GEORGIA

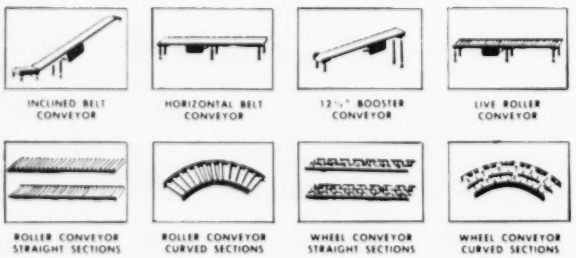
Representatives - Mechanical Division

William A. Knapp, Atlanta, Georgia
Matthews Equipment Co., Providence, R. I.
John C. Walters, Hampton, Georgia
C. H. Kennington, Charlotte, N. C.
Frank Birchfield, Alex. City, Ala.
Textile Parts & Machine Co., Gastonia, N. C.
F. C. Todd, Inc., Gastonia, N. C.

Largest Manufacturer of Cast-Tooth and Cut-Tooth Gears in the South

Write for free booklet

See this booklet, containing new and improved features in standardized conveyors. Logan Conveyor ADAPTO UNITS are pre-fab units which are combined to make standardized conveyors such as Inclined Belts, Horizontal Belts, Live Rollers. Because pre-engineered and produced in quantity, shipment can be made rapidly. Quotations are very prompt and prices attractively low. Built by a pioneer in the industry. Write for your copy of booklet today.



LOGAN CO.

206 Cabel St., Louisville 6, Ky.

Send free booklet—Logan Conveyor ADAPTO UNITS

Mr._____

Firm_____

Address_____

_____

Logan CONVEYOR ADAPTO UNITS

Shorts and Remnants

sociation . . . asking you to kindly consent that article be translated . . . for distribution among firms affiliated with our association. . . ."

Dr. KREUTZFELDT
Verband der Deutschen
Baumwollspinnerei
Frankfurt am Main
Germany

► We kindly consented. So many requests for this one, we should have put out a Braille edition too.

Improve Tear Strength

" . . . May issue . . . interesting article . . . 'How to Improve Tear Strength' . . . like to get five reprints. . . ."

L. E. HAGENOW
President
Charles C. Davis & Co.
Chicago, Ill.

► Reprints not made. Clip sheets served in this instance.

So You Don't . . .

" . . . please send us a reprint of your article 'So You Don't Want a Union' as appeared in your March issue. . . ."

J. M. GAYLE
Manager
Gastonia Weaving Co.
Gastonia, N. C.

► Demand for this one has been heavy. Additional reprints have been made and are available upon request.

Rush Seaming

" . . . will you please rush us 40 copies of your article 'Training Seamer Operators' . . . will gladly pay any charges . . . ask that you send it as soon as possible. . . ."

P. E. CONNER
Jackson (Missouri) Hosiery, Inc.

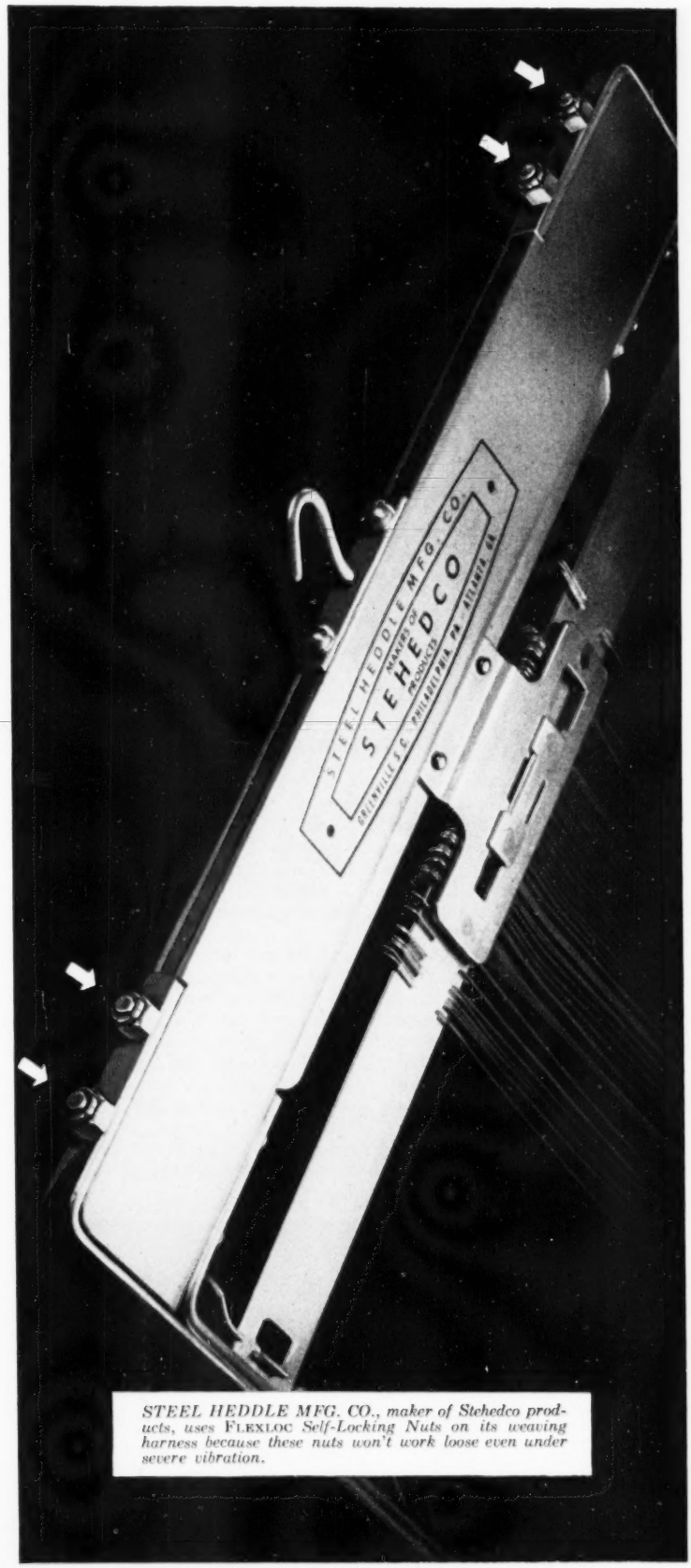
► Article rushed. No charge for reprints or shipping.

Glue

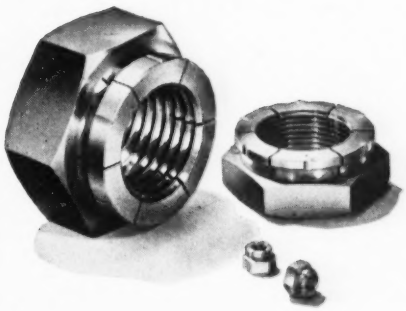
" . . . Read with interest in feature 'Champion Winder Operator' paragraph . . . glue is used to piece yarn breaks . . . further details . . . method used."

F. LEES
Supervising Manager
Newroyd Mill Limited
Waterhead, Oldham
Lancashire, England

► No one has dared challenge her, but many wanted to know about the glue.



STEEL HEDDLE MFG. CO., maker of Stehedco products, uses FLEXLOC *Self-Locking Nuts on its weaving harness because these nuts won't work loose even under severe vibration.*



Why FLEXLOC locknuts save you time and money

FLEXLOC locknuts save you time and money in assembly, because they are one piece, all metal—nothing to assemble, come apart, lose or forget. They eliminate complicated, time-consuming methods of locking threaded fasteners. They offer simpler, faster application than plain nuts and lockwashers, castellated nuts and cotter pins, nuts and jam nuts.

FLEXLOC locknuts save you time and money in maintenance, because they stay put as soon as their locking threads are fully engaged. Once you install them, you can forget them. Yet they can be removed and reused repeatedly. Service and inspection periods can be stretched safely from days to weeks, even months.

FLEXLOCs are stocked by leading industrial distributors and deliveries are prompt. Write for literature and samples. STANDARD PRESSED STEEL Co., Jenkintown 34, Pa.

FLEXLOC®

LOCKNUT DIVISION

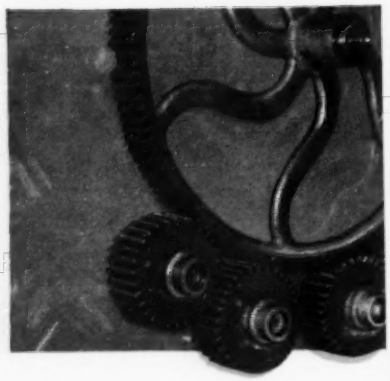
SPS

JENKINTOWN PENNSYLVANIA

Our Fiftieth Year : A START FOR THE FUTURE

. . . From SPARTANBURG, S. C.

TEXTILE NEWS



CELORON GEARS

. . . reduce wear on larger, more expensive gear in this textile printing machine. Prior to the use of Celoron, metal gears had to be replaced after one to two months' operations. But, since installing nine Celoron Gears over a year ago, there has been no wear on the main gear, no replacement of the Celoron Gears. C-D-F Celoron has high impact strength, excellent resistance to heat, oil, and water. For gears that are silent in operation . . . with uniform strength in every tooth . . . get C-D-F Celoron. *Ask your gear cutter for Celoron . . . always in stock at C-D-F Spartanburg, S. C.!*

CELORON POT-EYE

Here's a low-cost molded product made from C-D-F Celoron. This pot-eye is extremely smooth and strong . . . resists wear, never corrodes. Has excellent resistance to high heat and moisture. Thousands of similar, low-cost parts can be produced by C-D-F . . . who has the know-how, the equipment to mold and machine plastics for any use.

Write now for C-D-F Celoron catalog with specifications and horsepower ratings.

ALL PRODUCTS OF

Continental-Diamond Fibre Company

NEWARK 11, DELAWARE

. . . with Textile Headquarters at 834 Hayne Street, Spartanburg, South Carolina.

Call Spartanburg 3-6397 for DILECTO and DIAMOND FIBRE materials handling equipment . . . trucks, boxes . . . loom parts . . . top-speed shipments of CELORON silent gear blanks . . . friendly service from your C-D-F sales engineer.

Personal NOTES ABOUT MEN YOU KNOW

J. M. Dove is now superintendent at the Grendel Mill unit of Abney Mills. He was formerly at the Belton Mill. **J. A. Boyce** was promoted from assistant superintendent to superintendent at Panola Mill, succeeding A. L. Bannister, retired.

Oliver P. Beckwith, formerly acting director of quality control, has been named director of quality control at Alexander Smith, Inc. **E. A. Leonard** is now acting assistant director. **Murray D. Ewing,** previously staff assistant in the office of the vice-president in charge of operations, has been appointed sales controller.

New vice-presidents at American Thread Co. are: **G. E. Bowne,** general manager of industrial thread sales; **Harold Duncan,** general manager of domestic thread sales; and **Harry Horrocks,** general manager of yarn sales. **A. Keith Pooser** now has full responsibility for the engineering activities in the following plants of the company: Sevier, N. C.; Bristol, Tenn., finishing plants; spinning mills at Troutman, N. C., Clover, S. C., and Newnan, Tallapoosa, and Dalton, Ga.

Commemorating his 75 years of active service with the company, **William H. Carter,** president of The William Carter Co., was recently presented with a five-star pin.

James H. Botz, Jr., has joined the

Delta Kappa Phi Initiation and Banquet

Theta Chapter, Delta Kappa Phi honorary textile fraternity, held its spring initiation and installation of new officers on Friday night, May 8, 1953, in the auditorium of the A. French Textile School, Georgia Institute of Technology, Atlanta, Ga. The new officers are: John M. Miller, consul; William A. Murauskas, pro-consul; George F. Ruppenicker, annotator; William A. Weil, custodian; and Leonard J. Challain, scribe. New members initiated were: Enrique M. Arsuaga, Walter H. Carlson, Frank J. Hurt, Jr., Edward H. Johnson, Clyde W. Kennedy, and Paul L. Lefkoff.

Following the initiation ceremony, the group was entertained at a banquet held in the Officer's Club, U. S. Naval Air Station, Chamblee, Georgia. Franklin M. Garrett, noted Atlanta historian, spoke on the history of Atlanta. Mr. Garrett is historian for the Coca-Cola Company and past president of the Atlanta Historical Society.

Honored guests at the banquet included Herman A. Dickert, director of the A. French Textile School, and Prof. Charles A. Jones of the textile school, who is retiring in July after more than 47 years as a member of the Georgia Tech faculty.

Nalex WARP SIZE

lowers weave room humidity to 70%

NALEX lets you cut relative humidity—to 70% or lower.

NALEX is a *slow congealing* warp size. You need only enough tallow to prevent sticking to drying cylinders. Less tallow means that less moisture is needed in the air to plasticize the starch film.

Further, less moisture means you save on humidification costs. Your operators are more comfortable. Leather and wood loom parts last longer. Metal corrosion is reduced. Looms are easier to clean. Paint stops peeling.

NALEX is quick-cooking. Only 20 or 30 minutes at the boil. Its film is smooth and strong —and always uniform.

Ask for a NALEX demonstration.

National STARCH PRODUCTS

270 Madison Avenue, New York 16; Boston; Providence; Philadelphia; Atlanta; New Orleans, and other principal cities.

DOES YARN IRREGULARITY LOSE BUSINESS FOR YOU ?

Fielden Yarn Evenness Recorder measures yarn irregularity.

The new Fielden Yarn Evenness Recorder and Integrator will help you eliminate poor yarns; yarns that cause excessive ends down at the loom; yarns that make up into cloth with a matte surface, that cause barred effects or a scratchy appearance.

This new Fielden Yarn Evenness Recorder and Integrator is the last word in electronic design. It is as easy to operate as a TV set. It is controlled with a single knob. Once in balance it remains in balance. Because of its simplicity ordinary spinning and picker room help can operate it.

You don't need a costly technical laboratory to help you eliminate avoidable yarn irregularity.

Fielden's *new* Yarn Evenness Recorder and Integrator is the *latest* and *simplest* laboratory to do this. With it you can trace the cause of yarn irregularities from the heaviest slivers to the finest yarn filaments. This instrument can be your laboratory to measure yarn regularity at any stage in the process.

A capacity or dielectric principle using the Fielden Bridge System is the heart of the instrument. Specially designed temperature compensated condenser heads provide the perfectly parallel electric field essential for accuracy. Day long stability and freedom from drift are assured. Integration of mean level and mean deviation is inbuilt.

Write today for full facts of these and other unusual features of Fielden Yarn Regularity Recorders.

Fielden
INSTRUMENT DIVISION

ROBERTSHAW-FULTON CONTROLS CO.
2920 North 4th Street • Philadelphia, Pa

Personal NOTES
ABOUT MEN YOU KNOW

synthetic fabric merchandising department of Cone Mills, Inc., and will work in sales and fabric development.

John D. Paddon, formerly with Woods Manufacturing Co., is now vice-president in charge of production of Canadian Cottons Ltd.

Ralph L. Braun has been made secretary-treasurer of Belding Heminway Co., Inc. He has been associated with the firm for twelve years, serving as advisor on tax, insurance, and legal matters.

R. N. Conners has been promoted to executive vice-president and **W. N. Brock** to general sales manager of Chase Bag Co.

L. K. Fitzgerald, formerly coordinator of merchandising and manufacturing, has been promoted to general superintendent of Dan River Mills. He replaces Raymond Henderson, resigned.

Mr. Fitzgerald

John Wardlaw, formerly assistant superintendent at the Hatch Mill of Deering, Milliken & Co., has been named technical superintendent at that mill as well as the Excelsior Mills in Rutherfordton, N. C., and Union, S. C., also units of Deering, Milliken.

Raymond F. Clark has been elected a director of Hess, Goldsmith & Co. He is vice-president in charge of the industrial products division.

N. F. Young is now special projects engineer and **Walter E. Schacht, Jr.,** quality control engineer, in the research and quality control department of Fieldcrest Mills.

John W. Poulson has succeeded **S. Bruce Smart** as president of Fruit of the Loom, Inc. Mr. Smart is now

Five Du Pont Continuous Bleaching Systems that can help lower costs

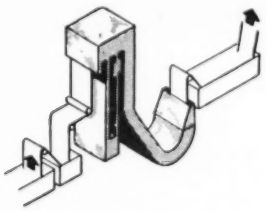
CAPACITIES FROM 500 TO 7,500 LBS./HR.

Whether your mill is large or small, there's a Du Pont system to meet your space and production requirements.

Each system assures lower over-all cost, flexibility, and ease of operation and control. Leading mills everywhere have modernized with continuous bleaching. So join the trend to better bleaching . . . investigate Du Pont Continuous Bleaching Systems. The coupon below will bring you full details. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Department, Wilmington 98, Delaware.

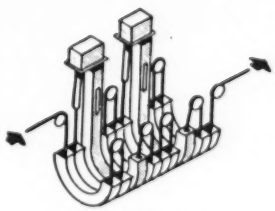
NOTE: Du Pont does not build or sell the equipment illustrated. Du Pont Systems are available from the following equipment manufacturers:

H. W. Butterworth & Sons, Jeth Ayres, Pa.
Cook—P & N Machine Co., Boston, Mass.
Greenville Steel & Foundry Co., Greenville, S. C.
Rodney Hunt Machine Co., Orange, Mass.
Weisner-Rapp, Inc., Buffalo, N. Y.
Proctor & Schwartz, Inc., Philadelphia, Pa.



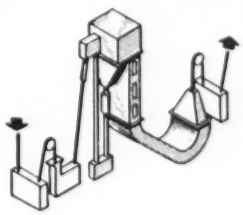
500 TO 1,000 LBS./HR.

Compact single-stage unit for the smaller plant or for specialty bleaching in larger plant. Handles cloth continuously at average rate of 75 yards per minute.



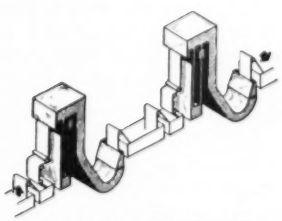
750 TO 1,500 LBS./HR.

Two-stage unit produces maximum yardage at lowest possible cost. One-man operation means savings in labor. Goods in the 3-7 yds./lb. class can be handled at 100 yds./min. speed.



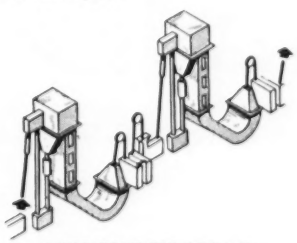
1,500 TO 3,000 LBS./HR.

Excellent arrangement for production requirements of 200,000 to 400,000 yds. weekly. Handles light and heavy constructions. Available in open-width design for goods that cannot be rope-processed.



2,000 TO 6,000 LBS./HR.

Flexible arrangement permits installation as single or two stage system. Requires only 325 to 500 sq. ft. floor space. Handles 75 to 125 yds./min. Matched units can be added to increase capacity.



3,000 TO 7,500 LBS./HR.

For large-scale bleaching of print cloths, terry toweling, colored yarn, shirting, etc. Can be designed to process up to 300 yds./min. Open-width design also available.

SEND FOR FREE ILLUSTRATED BOOK

about Continuous Bleaching. It describes typical installations in leading mills and all phases of the process. Just fill out and mail the coupon below for your copy.

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Please send me more information about Du Pont Continuous Peroxide Bleaching Systems—including your free book.

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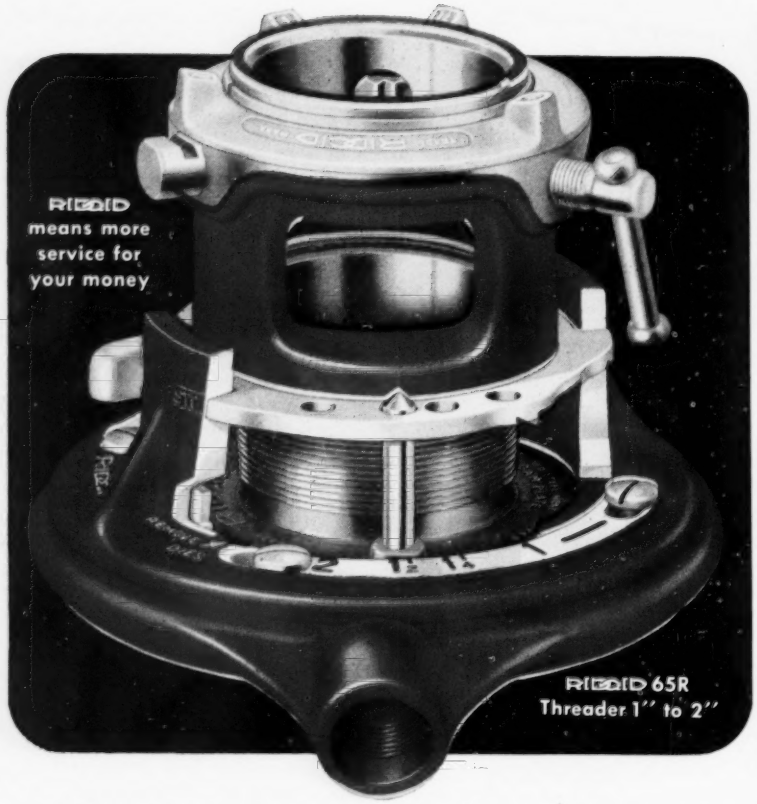

Threads 4 sizes of pipe *fast* with 1 set of dies—*and it won't jam!*

RIDGID
65R PIPE THREADER

This popular 65R has saved millions of hours of threading time, and no wonder—its one set of self-contained high-speed dies adjust to 1", 1¼", 1½" or 2" pipe size in 10 seconds! Mistake-proof self-centering workholder sets instantly! And lead screw won't jam on workholder, kicks out automatically at standard thread length! You can't match it for fast easy pipe threading —buy it at your Supply House.

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RIDGID
Work-Saver Pipe Tools

Personal NOTES ABOUT MEN YOU KNOW

chairman of the board. **Shirley D. Gardiner** has been elected treasurer; **Laurence W. Carstensen,** controller and **Earl R. Fraser,** assistant treasurer.

William C. Lovejoy has retired as credit manager of Fulton Bag & Cotton Mills. He is succeeded in this post by **Wylie K. White,** formerly assistant credit manager.

Raymond E. Henderson, formerly general superintendent of Dan River Mills, has joined Goodall-Sanford, Inc., as manager of the industrial fabrics division.

Richard T. Scott has resigned as vice-president and board member of Holly-Knit, Inc. and as a member of the board of directors of American and Efird Mills, Inc.

After more than forty years in the woolen industry, **Harry C. Jackson** has retired as vice-president and a director of A. D. Juilliard & Co., Inc.

J. N. Summerell, formerly with the Cramerton division of Burlington Mills Corp., has joined the Lafar group of mills as vice-president and general manager.

New personnel director of the Lanett Bleachery and Dye Works is **John P. Norman,** who has been connected with the West Point Manufacturing Co. for the past 18 months.

Lehigh Valley Textile Manufacturers Association is the new name for the group formerly known as Textile Weavers of Pennsylvania. **Joseph A. Ludrol,** Phoenix Silk Co., was elected president; **Albert Maggio,** of Peter Maggio & Sons, vice-president; **Theodore Fine,** Lehigh River Mill, Inc., secretary; and **William Canova,** Canova Brothers Silk Co., treasurer.

Randolph Boaze, previously plant manager of Sellar's Manufacturing Co., has been named as superintendent in charge of all operations at Numbers 3, 4, and 6 mills of Mooresville Mills.

New chairman of the national committee of the National Association of Cotton Manufacturers is **Malcolm G. Chace, Jr.,** president of Berkshire Fine Spinning Associates, Inc.

Eight new directors of the National Association of Hosiery Manufactur-

Cross Section Tula-Pad

Ever sit on Cactus?

Believe it or not—that's exactly what this lady's doing . . . *relaxing on a cushion of cactus!*

Naugatuck's Lotol®—a special latex compound—binds springy cactus fibers together to form Tula-Pad,* an amazing cushioning material used by Bunting Glider Company, Philadelphia, one of the largest manufacturers of lawn furniture.

Extra resilient! This comfortable cactus-Lotol cushion has withstood loads of 100 lbs. per square foot with *a minimum* compression set! Fibers are securely locked together—can't bunch, pack down, or pull apart.

Far lighter! Airy Tula-Pad weighs only *1/3 as much* as ordinary, less efficient, filling materials—cushions are a cinch to carry. And air circulation *keeps them cool and comfortable.*

Cut to size! Thanks to its Lotol binding, this material can be die cut to your required size and quickly covered. With practically no make-ready, it is *extremely easy* to install.

What's more, the Lotol-locked fibers resist rot or mildew and last for years and years. *And* Tula-Pad is relatively inexpensive!

Perhaps you, too, can be "sitting pretty"—with Lotols. Produced by the world's leader in fine latices, they're compounded to *your specific needs*—for bonding, coating, dipping, sizing, saturating, any latex application.

Learn more about Lotols and the product potential they offer you. Write to the address below.

*Queen City Tulatex Corp., Burlington, Vt.

Naugatuck Chemical

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METALLIC CARD CLOTHING

for COTTON, RAYON NYLON, WOOL AND ALL STAPLE FIBRES

* 100 YEARS EXPERIENCE

ORIGINAL SUPPLIERS TO THE U.S.A.

PRODUCTION INCREASED BY 18%. SAVING IN WAGES 22%. REDUCTION IN LABOUR FORCE 33⅓% BY DOING AWAY WITH REGULAR STRIPPING & GRINDING

IDEAL FOR MAN MADE FIBRES

PLATTS' METALLIC CLOTHING PUTS THE FIBRES INTO THE WEB

SO WHY MAKE STRIPPING WASTE CHANGE TO PLATTS' METALLIC CLOTHING & SAVE THAT WASTE.

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Will be pleased to give Technical Information & answer your questions

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MIDDLESEX - ENGLAND

Personal NOTES ABOUT MEN YOU KNOW

ers are: **J. Chadbourn Bolles,** Chadbourn Hosiery Mills; **Edmund L. Lauber,** NoMend Hosiery, Inc.; **Frazier D. MacIver,** Phoenix Hosiery Co.; **Chester H. Roth,** Standard Hosiery Mills; **R. B. Crawford,** Hanes Hosiery Mills Co.; **Howard A. Kaiser,** Burlington Mills Corp.; **Grayson Harralson,** Princeton Hosiery Mills; and **Andrew E. Vaughan, Jr.,** Vaughan Knitting Co. All officers of the association were re-elected, and **Reuben C. Ball,** in addition to being re-elected secretary, also was elected to the office of vice-president.

Everett L. Kent, Kent Manufacturing Co., has succeeded Ames Stevens as president of the National Association of Wool Manufacturers. New vice-presidents are: **Mr. Stevens; Kenneth W. Marriner,** Marriner & Co., Inc.; and **F. W. Tipper,** Cascade Woolen Mill. **Edwin Wilkinson** is executive vice-president. New directors are: **Charles E. Dearnley,** Dearnley Bros. Worsted Spinning Co., Inc.; **Ralph K. Hubbard,** Packard Mills, Inc.; **Arthur O. Wellman,** Nichols & Co., Inc.; **John W. Smith,** Parker, Wilder & Co., Inc.; **Arthur G. Corkery,** American & Efird Mills, Inc.; **Aram A. Milot,** Paragon Worsted Co.; **Copeland M. Draper,** Draper Bros. Co.; **Alfred W. Cavedon,** Aldon Spinning Mills Corp.; **E. D. Walen,** Pacific Mills; **R. A. Mitchell,** Cyril Johnson Woolen Co.; and **James F. Dewey,** A. G. Dewey Co., Inc.

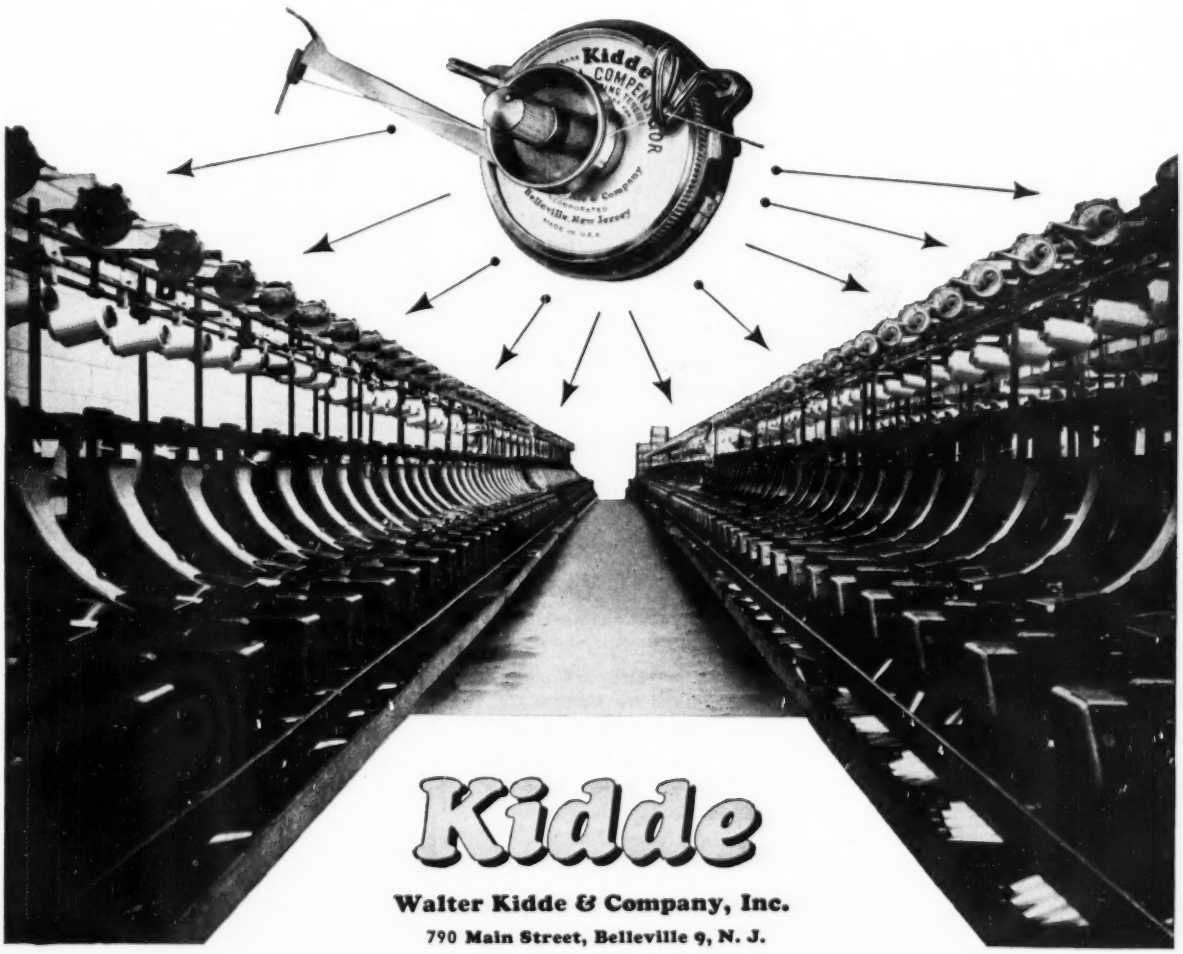
The National Council for Textile Education was recently organized, with **Dr. G. Nathan Reed,** dean of Lowell Institute of Technology, as president. This organization succeeds the National Council of Textile School Deans. Others elected were: vice-president, **Dr. Laconia H. Hance,** Institute of Textile Technology; secretary, **Cleveland Adams,** Alabama Polytechnic Institute; and treasurer, **Edward Pickard** of Kent, Conn.

Paul C. Beatty has been promoted to assistant southern manager of the worsted division of Pacific Mills, Inc. He was previously resident manager of the Halifax, Va., mill.

Charles W. Carvin, Charles W. Carvin Co., **Robert L. Huffines, Jr.,** Textron, Inc., and **Jacques Weber,** Bloomsburg Mills, Inc., were recently elected to the board of trustees of Philadelphia Textile Institute. New

How Quill Winders are Tension Controlled at the Schneider Mill

Over 500 leading textile mills depend on Kidde Compensators to take the guesswork out of tension control. Kidde Compensators are precision instruments made of the most modern non-corrosive materials. They're a cinch to set, and automatically compensate for a change in the coefficient of friction as well as back drag. If you use quill winders on any kind of synthetic yarn, count on Kidde Compensators to (1) assure uniform tension throughout the quill; (2) control tension at bunch; (3) prevent sloughing off due to soft quills; (4) relieve yarn tension at *start* of bunch, thereby promoting longer quill life. Write today for full information.



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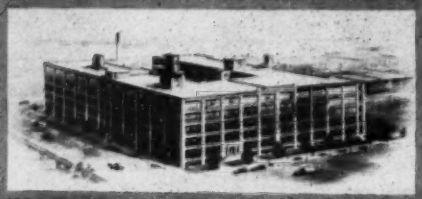
and SOUTHERN SHUTTLES DIVISION



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Paris, Greenville, S. C.

Manufacturers of

Flat Steel Heddles • Loom Harness Frames • Loom Reeds (Pitch Band and All Metal, Regular and Stainless Steel Wire) • Loom Harness Accessories • Automatic and Hand Threaded Southern Shuttles (Tempered Dogwood, Persimmon, and Fibre Covered) • Warp Preparation Equipment • Electrode Rods (Fibre and Plastic Insulation) • Drop Wires • Creel Stop Motions • Pigtail Thread Guides • Tension Washers • Light Metal Stampings • Hard Chrome Plating • Hard Chrome Plated Parts • Rayon Cake Holder

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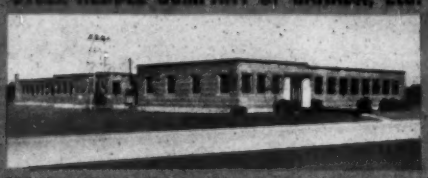
STEEL HEDDLE COMPANY OF CANADA, Ltd.



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STEHEDCO and SOUTHERN Products
"Weave the World's Needs"

Personal NOTES ABOUT MEN YOU KNOW

board members of the Institute Foundation are: **H. Howard Colehower, Jr.,** C. Walker Jones Co.; **Michael Daroff,** H. Daroff and Sons, Inc.; **Edward L. Espen,** Moss Rose Manufacturing Co.; **Edwin G. Michie,** Andrew Y. Michie and Sons; and **Philip J. Schlosser,** Schlosser Mfg. Co.

F. C. Schultze, assistant general manager, has been made vice-president in charge of sales of Portland (Ore.) Woolen Mills, Inc. **W. B. Calvert,** superintendent, is the new vice-president in charge of manufacturing. **R. T. Montag** was made first vice-president.

Robert M. Cushman, in charge of manufacturing for the southern division; **Frank Fiore,** responsible for sale of cotton and tricot products· **Frederick A. Jenckes,** in charge of sales of spun and high-style filament fabrics; and **Edmon G. Luke,** supervising sales of staple filament fabrics, have been made vice-presidents of Textron Incorporated. **Douglas L. Grote** has succeeded C. C. Hammer as controller, and **Arthur A. Erlandson** was elected assistant treasurer.

Shelby H. Jarman has been elected president of Waterville Textile Mills, Inc., Waterville, N. Y. He succeeds the late LeRoy L. Harding.

Lamar Westcott, treasurer of Cabin Crafts, Inc., was recently elected a director of the West Point Manufacturing Co. **Frank P. Samford,** president of the Liberty National Life Insurance Co., Birmingham, Ala., was elected to succeed the late Lee Ashcraft as member of the board of six companies affiliated with West Point.

E. F. Wilson has been named superintendent of maintenance of the Wiscasset Mills, Albemarle, N. C. He was previously head of the department of vocational education at Albemarle High School.

Obituaries

M. O. Alexander, 82, retired textile executive, until 1947 connected with Woodside Mills.

Harry B. Benson, 54, vice-president of Cheney Brothers.

David Y. Cooper, 72, vice-president and director of Henderson and Harriet Cotton Mills.

Joseph Corea, 49, master dyer and supervisor of dyers, Berkshire Knitting Mills.

E. S. Dunn, until his retirement six years ago vice-president of Avondale Mills.

Hargraves Gill, president and manager of Westboro Weaving Co. until he retired in 1951.

Bernard J. Gorman, Sr., 60, owner of Lansdowne Spinning Mills.

Charles H. Graessle, Sr., 71, president and treasurer of Graewil Sportswear, Inc.

Aaron Greenberg, 79, general manager of Wayne Weavers, Inc., and Samson Worsted Mills, Inc.

W. J. Hunter, 59, vice-president of Springs Mills, Inc.

Alexander F. Ix, 56, president of Frank Ix & Sons, Inc.

James J. Kann, owner and president of Wilmington (Del.) Hosiery Mills, Inc.

Joseph A. Katz, 54, president of Hamilton Hosiery Mills.

Walston A. Lynn, 59, Springs Cotton Mills.

James W. McLaughlin, 62, vice-president, Union Carbide and Carbon Corp.

Harry A. Mason, 49, assistant manager of the Cleveland office of American Viscose Corp.

John R. Pettit, 32, assistant to the plant engineer of Hooker Electrochemical Co.

John T. Pollard, 70, board chairman of Galax Knitting Co., Inc.

James Tansey, president emeritus of Bradford Durfee Technical Institute.

Alfred M. Townson, founder and president of A. M. Townson & Co., Inc.

Alfred C. Werner, president of Chestertown Mills.

Perley S. Wilcox, chairman of the boards of Tennessee Eastman Corp. and Texas Eastman Co.

750,000

Miles Traveled...

Helping Mills With Their Harness Problems

Stehedco and Southern place every available service at the finger tips of the Weaver whether he is located next door to any one of the many Steel Heddle manufacturing plants, or very far from all.

Steel Heddle Field Engineers, step for step, are not only prepared to assist in solving mill problems, but are also equipped to supply the mill with a complete line of Quality Loom Harness requirements.

The Steel Heddle Field Engineer saves your time . . . because he only handles the Stehedco and Southern line.

Consult him when recommendations are required.

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WORLD FAMOUS TRADE MARKS OF THE
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310 St. Hubert Street • Granby, Quebec, Canada

Other Plants and Offices: Greenville, S.C. • Atlanta, Ga. • Greensboro, N.C. • Providence, R.I.

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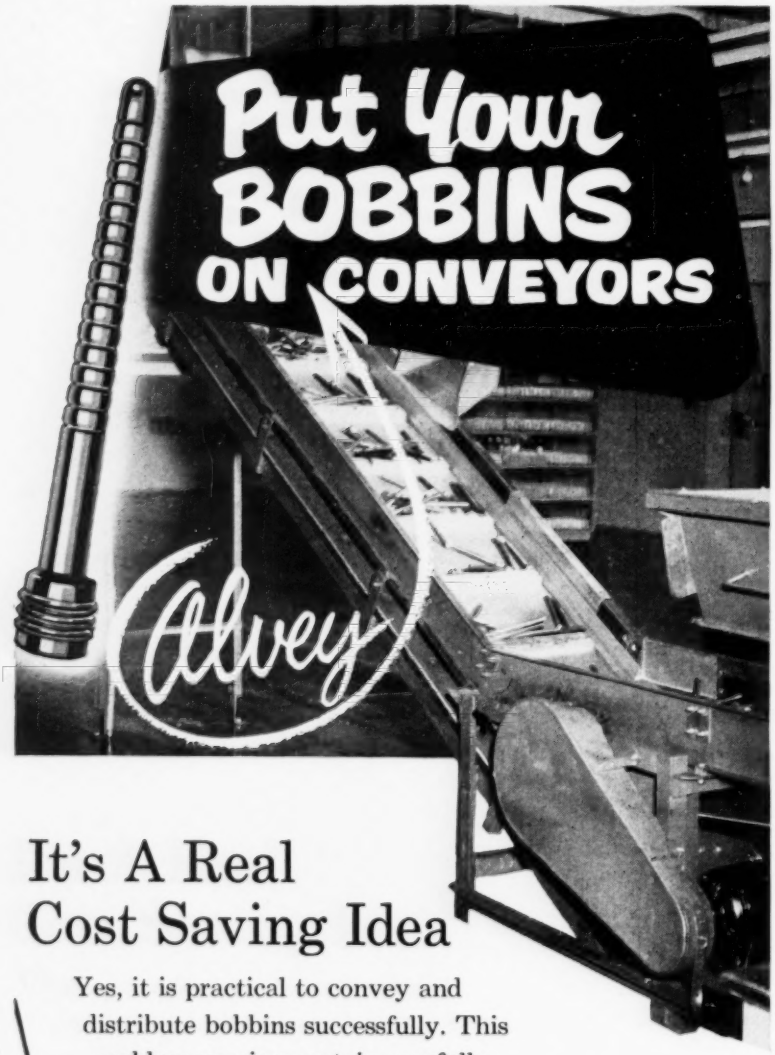


It's A Real Cost Saving Idea

Yes, it is practical to convey and distribute bobbins successfully. This problem requires certain carefully engineered mechanical details. Alvey engineers have the answer. Write today for additional information. Just say send more data on bobbin handling.

ALVEY

ALVEY CONVEYOR MFG. CO.

9306 Olive Street Road • St. Louis 24, Missouri

What the TEXTILE MILLS are doing

Wuskanut Worsted Corp., Farnumsville, Mass., recently acquired by **John Alden Woolen Mills**, Worcester, Mass., will be continued as a new branch mill.

A portion of its Yonkers, N. Y., property has been sold by **Alexander Smith, Inc.**, to Benson & Hedges, cigarette manufacturer. The buildings were formerly used as general offices, now being removed to a new structure.

A modernization and improvement program is being carried out by **Ames Worsted Co.** at its Hamilton mill.

Bates Fabrics, Inc., is moving to new quarters at 112 West 34th Street, New York, N. Y.

A two-story research laboratory was recently completed by **Bauer & Black**, division of Kendall Co., 2500 South Dearborn St., Chicago, Ill., and facilities have been provided for a staff of more than 130 people.

At a cost of more than $2,500,000, **Berkshire Knitting Mills** are installing 76 new full-fashioned knitting machines. 44 will knit 66-gauge hosiery and 32 will produce 60-gauge.

A $3,000,000 loss was sustained by **Buck Creek Cotton Mills**, Siluria, Ala., during a recent tornado which destroyed the buildings and a group of more than 130 houses occupied by employees. Some mill equipment has been salvaged and repaired, and the site has been made ready for reconstruction.

Burlington Mills Corp. is constructing a one-story mill near Asheboro, N. C., to be equipped as a finishing plant for half hose.

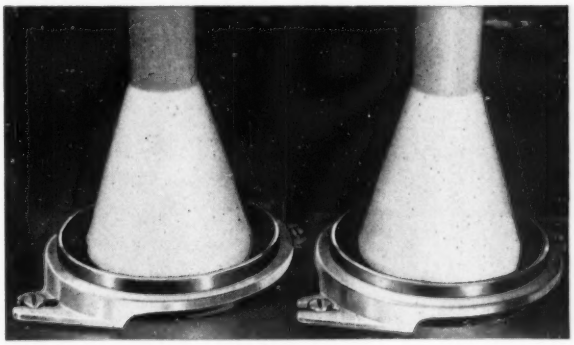
Callaway Mills Co. is planning a one-story addition to the main mill, the cost to be approximately $125,000.

Celanese Corp. of America, Inc., has discontinued weaving operations at its mill in Staunton, Va., and has closed it permanently. This marks the complete retirement of the company from commercial weaving operations.

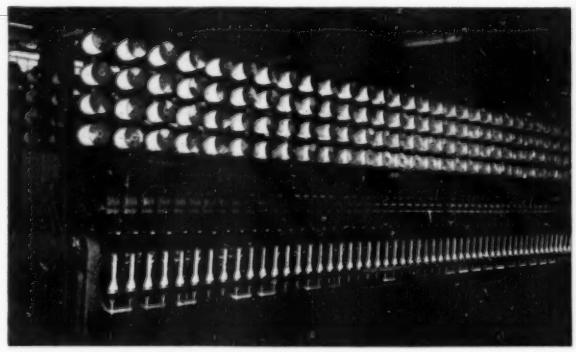
Cooper's Inc. of Georgia, Millen, Ga., knit underwear, etc., has an expansion program underway which is

How BOGER & CRAWFORD increased bobbin capacity 82% with HERR twister rings!

OLD RINGS — Before new rings were installed the frames were equipped with 2⅛" flange rings of the conventional type. Maximum conventional-ring size would have been 2¼ inches.



NEW RINGS — Twisters now have 2¾ inch Herr Conical Rings and Holders ¼ inch larger than the largest size of conventional ring that could have been used because the new rings fit on the rail and not in it.



THIS BOGER & CRAWFORD TWISTER at Lincolnton, N.C., puts 8,760 yards of 40/2 yarn on a bobbin, instead of 4,800 yards as before. The only change made was in the type of ring and size. Now, knots are reduced in sales cones because fewer bobbins are needed to fill each cone.

RINGS operate with controlled lubrication. Oil is not thrown off, travelers last longer because oil is carried in capillaries to ring surfaces. Traveler distributes and rides on microscopic oil film. Rings, yarn, frames and room floors stay clean and a more uniform yarn is produced.

Ask for help on your problem.

Let HERR help solve your spinning and twisting problems. We'll show you how to adapt your equipment to any textile fiber or blend with HERR Conical Rings. Write today!

Name..... Title.....

Company.....

Address.....

City..... State.....

HERR MANUFACTURING CO., INC.

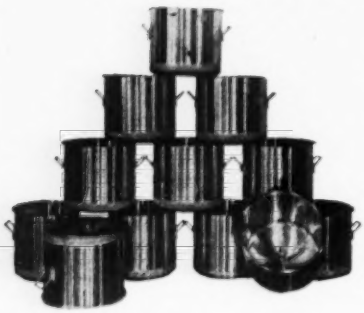
310 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON AND BLENDED YARNS OF ALL TYPES

Leading Mills use GLASCO

TANKS, PAILS, STORAGE CONTAINERS

and other accessory equipment



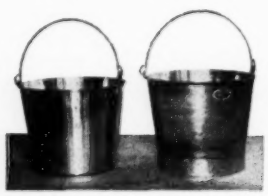
Typical of a big line are:

STAINLESS STEEL STORAGE CONTAINERS

— 18 gauge, polished outside, top edge doubled metal flanged out ⅝″ at 90°. Has 2 stainless steel tubular handles. Foot is 12 gauge polished stainless steel either spot or tack welded to container and sealed with solder. Capacities: 10 gals. (14″ x 16″), 15 gals. (16″ x 18″), 20 gals. (18″ x 19″), 25 gals. (20″ x 20″), 35 gals. (21″ x 24″), 50 gals. (22¾″ x 30″).

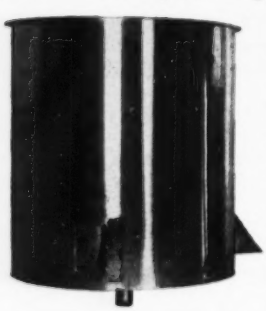
STAINLESS STEEL PAILS—

drawn in one piece (seamless), with bail handles, come with or without foot—unpolished, or polished inside, or outside—or both. They run in capacities of 12, 16 or 20 quarts.



MIXING AND STORAGE TANKS

Come in four styles: flanged and dished bottom, flanged bottom—flat or pitched, disc bottom—flat or pitched, cone bottom. Capacities: 25-50-75-100-150-200-250 and 300 gallons. Two styles of pipe legs (either with floor flanges or adjustable sanitary feet)—or with platform lugs or removable stand. Tanks 25 thru 100 gallons are of 16 and 18 gauges—and from 150 through 300 gallons they are of 14 and 16 gauges (depending on style of bottom). Extras include: 1 piece flanged cover, hinged cover, and motor bracket.



Manufacturers of modern metal equipment for wet processing uses, including Dye Jig Enclosures, Dye Tubs and Becks, Wash Tubs, etc., of stainless steel and other metals that resist corrosion under most alkali and acid conditions.

GLASCO EQUIPMENT CORP.

Pioneer Fabricators of Stainless Steel Equipment

10 WAIT STREET — GLASCO PRODUCTS — PATERSON 4, N. J.

Phila. Area: Marple Organization, 1200 Commercial Trust Bldg., Philadelphia 2, Pa.

New York State: Sanders Industrial Equip. Co., 1351 Broadway, Albany 4, N. Y.

South: Henry H. Hersey Co., 44 Norwood Place, Greenville, So. Car.

New England: Harris & Underhill, 446 Statler Bldg., Boston, Mass.

What the TEXTILE MILLS are doing

expected to cost about $150,000. The new knitting and bleaching unit being installed will make the plant completely self-contained from yarn to finished products.

Catalina, Inc., Los Angeles, Calif., has leased additional space for increased production of swim suits.

A one-story building now being erected at Rocky Mount, N. C., has been leased by **Dacy, Inc.,** wool processing, for a new mill.

New knitting machines are being installed at **Douglas (Ga.) Silk Products Co.** for increased production.

Fab-Knit Manufacturing Corp., recently chartered, will manufacture outerwear. The firm is represented by Samuel Schwartz, 1776 Broadway, New York, N. Y.

H. H. Frede & Co., Chattanooga, Tenn., has leased a one-story building at Hawthorne, N. J., for a new factory branch, storage, and distributing plant.

Rayon, silk, and other yarns will be manufactured by the newly chartered **Gastonia (N. C.) Novelty Yarn Co.** R. W. Baker is one of the principal incorporators.

General Knitting Mills, Allentown, Pa., has leased a one-story building being constructed at Monroe, N. C., and will move the present plant to the new location. Installation plans include 75 circular knitting machines and accessory equipment. Philip Gesoff is president.

Georgia Duck and Cordage Co., Scottdale, Ga., has an extension to the weave room under construction.

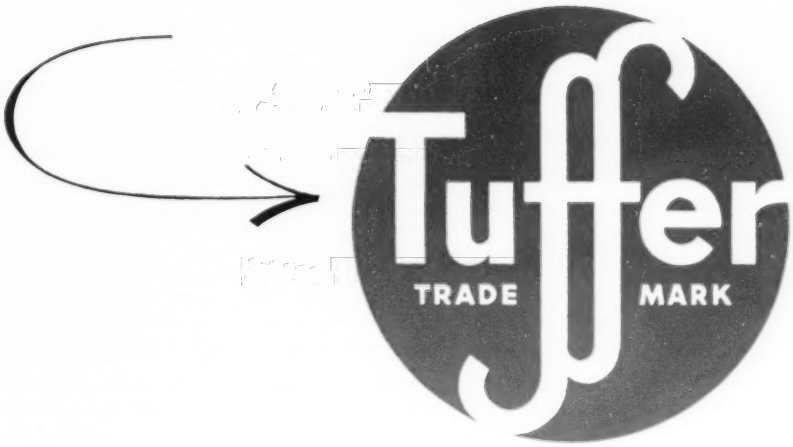
A new plant to be erected at Hot Springs, N. C., will be leased by **Goodall-Sanford, Inc.,** and used for making yarns for the firm's Palm Beach cloth and automobile fabrics. This is the first mill operation of the company to be located in the South. John D. Hogan, Jr., has been made manager of the southern division.

Grecian Textile Printing Corp., recently organized, is represented by Irving W. Berkman, 44 Court St., Brooklyn, N. Y.

Goodyear Clearwater Mills have constructed an addition to their mill

for better service

specify



CARD CLOTHING

By *service* we mean the ability to supply you with the exact type of Card Clothing you need at the *time* and *place* you need it.

This means alertness to your requirements on the part of our representatives and those in our home office. It also means careful supervision of your order through every manufacturing process right to the shipping room door. It means maintaining servicing centers near you to eliminate unnecessary costs and reduce delays.

Above all it means the expression of a healthy appreciation, on our part, for your confidence in sending us your orders.

If you are not now a TUFFER user try us. You will find our *service* is equal to our quality.

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Top Flat Chains

HOWARD BROS.

A-5

WORCESTER 8, MASSACHUSETTS

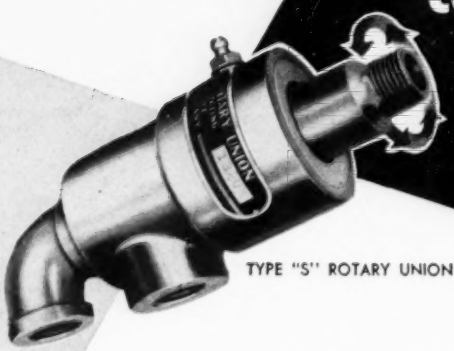
Southern Plants: Atlanta, Ga. and Gastonia, N. C.
Branch: Philadelphia, Pa. *Direct Representation in Canada*

ROTARY UNION

(REG. TRADE MARK)

a revolving steam connection

PIPE SIZES 1/4" THROUGH 3"



TYPE "S" ROTARY UNION

The Most Compact
Most Economical
Longest Lasting
revolving steam joint you can buy

. . . The ROTARY UNION needs no complicated piping or brackets and can be installed in a few minutes . . . furnished complete with high-pressure metal hose connections . . . it provides a perfect seal under difficult conditions, requires no mechanical maintenance, and eliminates down-time due to sealing failures . . . and many ROTARY UNIONS have been giving sealing service for over three years on slashers, dry cans, calenders, embossers, and printing and coating machines without a leak.

Contact any of our offices for additional information or engineering consultation or write Dept. 7T for our catalog.

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Atlanta, Chicago, Cleveland, Philadelphia, Providence, New York, Montreal, Toronto

What the TEXTILE MILLS *are doing*

at Atco, Ga., to be used to pre-dip tire cord. At Cartersville, Ga., the firm is planning erection of a liquid latex process plant, for processing of tire fabric.

A one-story addition to the plant is under construction by **Greenville (N. C.) Mills, Inc.,** for increased capacity.

A small branch plant at Roxboro, N. C., has been established by **Halifax (Va.) Worsted Mills.**

The Noone Division of **F. C. Huyck & Sons** Kenwood Mills, located in Peterboro, N. H., recently completed a modernization program which included installation of four 60" sets of cards and six 150-spindle spinning frames. New finishing equipment is also in operation. The Noone Division was formerly Jos. Noone Sons Co.

Seneca, S. C., has been announced as the site for a one-story branch mill to be occupied by **Jantzen Knitting Mills, Inc.** The original 30,000 sq ft floor space will later be expanded to 90,000 sq ft, with corresponding increased working force.

Lee Dyeing Co., Inc., Johnstown, N. Y., is establishing a branch mill near Durham, N. C., and will improve the facilities for the dyeing and finishing of synthetic fabrics. An affiliated company, under the name of **Lee Dyeing Co. of North Carolina, Inc.,** has been organized to operate the mill.

A one-story vault type addition to the Glasgow, Va., carpet mill is being constructed by **James Lees and Sons Co.**

E. S. Dunlap is president and general manager of the recently organized **Lehigh Dyeing & Finishing Corp.,** which has taken over property at 801 Meadow St., Allentown, Pa., for a dyeing and finishing mill.

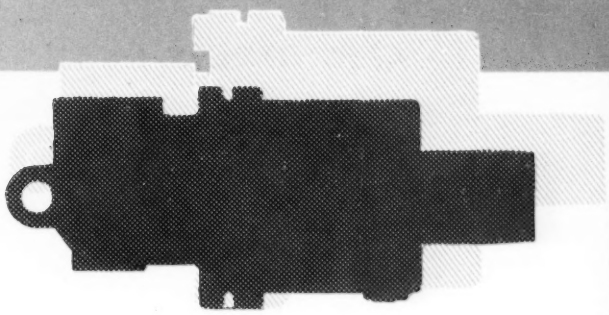
Libbey-Owens-Ford Glass Co. has announced that licenses for the use of Garan finish, for the manufacture of reinforced plastic laminates, have been issued to **United Merchants Industrial Fabrics Corp., T. E. Thal, Inc.,** and **Glass Fabrics Finishing Co.**

Limerick (Me.) Knitting Mills, Inc., closed for more than two years, has

(Continued on page 174)

The NEW Series 2000

TYPE S JOHNSON JOINT



See for yourself how the more compact, lighter weight Series 2000 Type S compares with the old design. Price tag is smaller, too, yet life of wearing parts is increased as much as 40%.

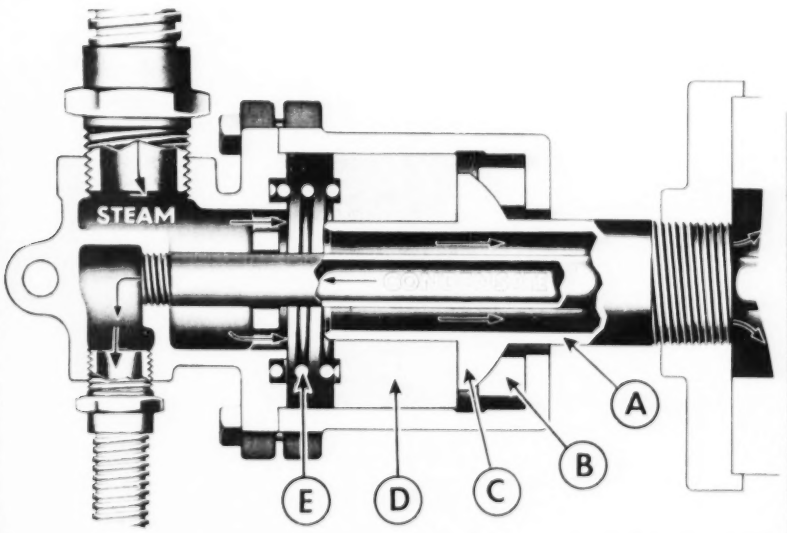
SAVINGS IN SIZE
SAVINGS IN WEIGHT
SAVINGS IN COST
EVEN LONGER LIFE

The Type S Johnson Joint was big news when it was first introduced — as the self-supporting version of a device that was already the best known, most widely used of its kind. Now comes bigger news than ever!

Now Johnson offers the *brand new Series 2000* Type S. It's smaller in size, lighter in weight, and lower in price. At the same time the effective size of the carbon-graphite seal rings has been increased, thus lengthening service life as much as 40%.

It still remains completely packless, self-lubricating and self-adjusting. It still offers a complete answer to any threat of misalignment since its self-supporting design shifts as the roll shifts. In short, it piles important new advantages on top of the time-proved ones, and costs less in the bargain.

The new Series 2000 Type S Johnson Joints are available for both through flow and syphon pipe service, in sizes from ¼" to 4". Get all the facts; write for new bulletin.



Series 2000
Type S Johnson Joint

Cross-section view shows how nipple (A) is connected to roll. Carbon-graphite seal ring (B) rotates against convex surface of collar (C). Joint assembly is supported by guide (D), which is also of long-lived, self-lubricating carbon-graphite. Spring (E) is for initial seating only; in operation joint is pressure-sealed.

Products of The **Johnson Corporation**

Wood St., Three Rivers, Michigan

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters

The NEW Type J Johnson Joint

ALSO OFFERS SAVINGS IN SIZE, WEIGHT AND COST —AND EVEN LONGER LIFE

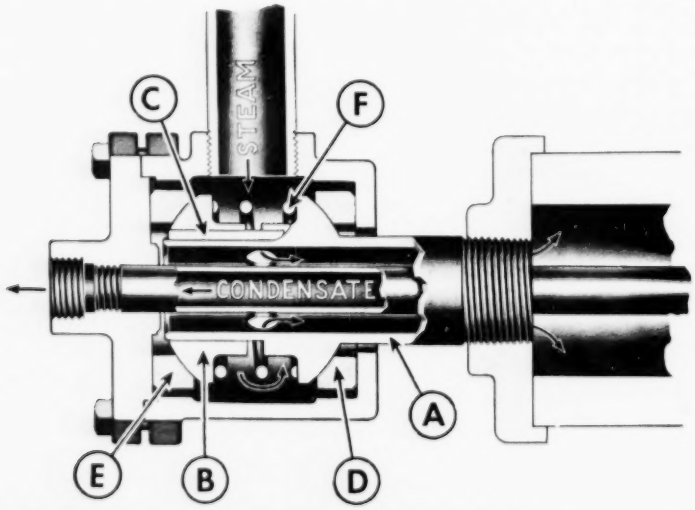
In this new Type J you have all the advantages of Johnson Joints in a smaller size, lighter weight design. It has carbon graphite seal rings which are thicker at the web and can increase service life as much as 40%. Yet it costs less than before.

These are basically the same Johnson Joints which have written an unequalled service record, and which have been adopted almost unanimously by machinery manufacturers. They have no packing of any kind, need no lubrication whatsoever, and adjust automatically for varying pressures. Their simplicity of design makes them easy to service or repair right in the field.

Besides reducing costly, hard-to-handle bulk, the new Type J brings many other refinements. The inlet is now in the side of the body, which makes easier both the piping hook-up and the task of properly centering the joint. The head design has been simplified to permit condensate outlet connection in any direction. There is also provision for a special assembly plate to facilitate removal of modern mechanical syphon pipes.

It has always been true that Johnson Joints quickly pay the cost of switching over, but never more so than right now. If you haven't yet changed to Johnson Joints don't fail to get all the facts.

Type J Johnson Joints are available for either through flow or syphon pipe service, and for all operating conditions. Models are also available with lugs cast on body for rod supports. Write for new bulletin.



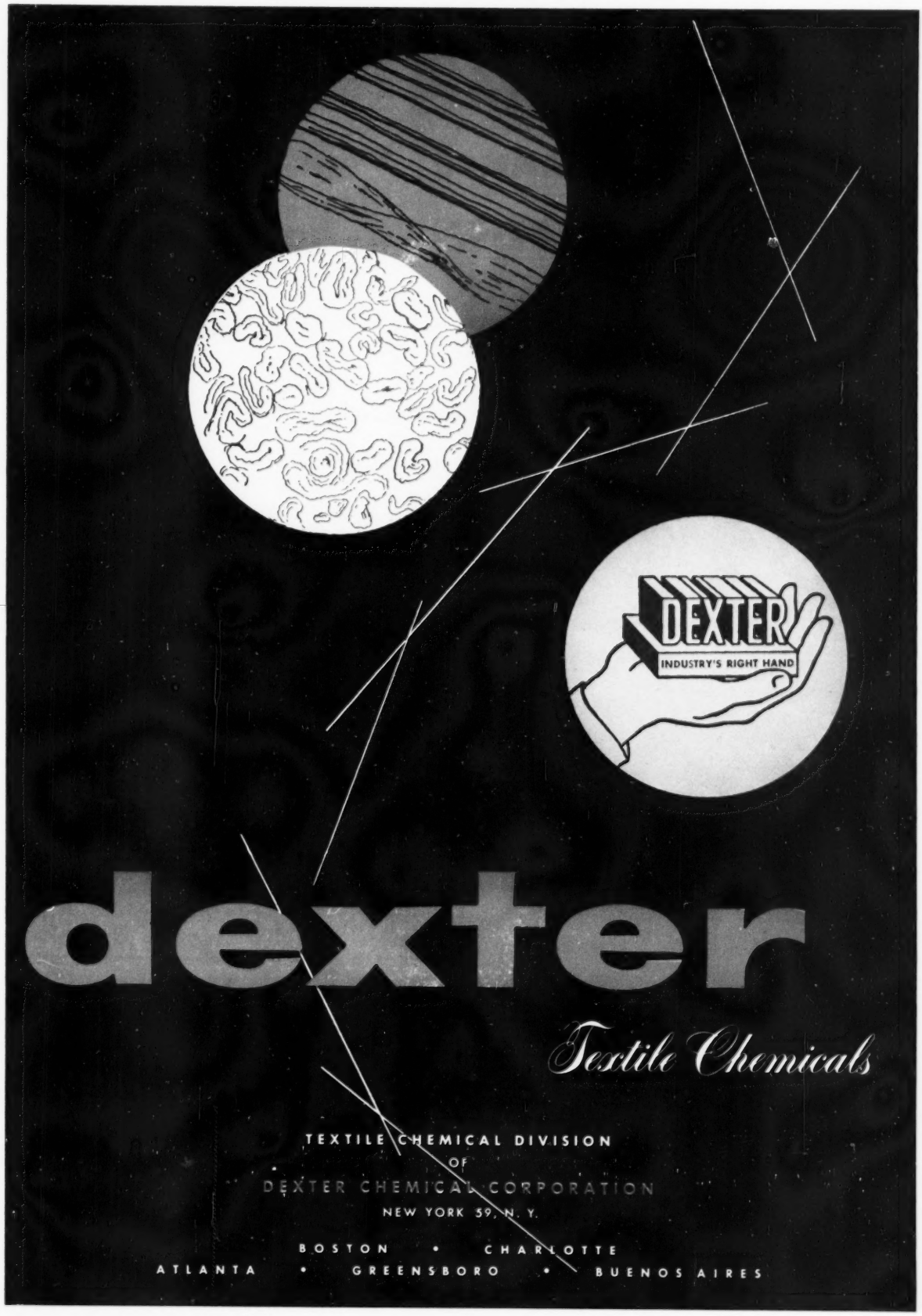
The New Type J Johnson Joints

Nipple (A) is connected to roll or drum. Collar (B) is keyed at (C) to rotate with nipple, but fits loosely so pressure can fill entire housing. Seal ring (D) and bearing ring (E) are of special carbon-graphite; they eliminate all packing and are completely self-lubricating. Spring (F) is for initial seating only; in operation pressure is sealing force. Note self-aligning characteristics — the space around rings and nipple to provide for lateral movement of rotating assembly, and the spherical seating for angular movement.

Products of The Johnson Corporation

Wood Street, Three Rivers, Michigan

Rotary Pressure Joints • Compressed Air Separators and Aftercoolers
Direct Operated Solenoid Valves • "Instant" Steam Water Heaters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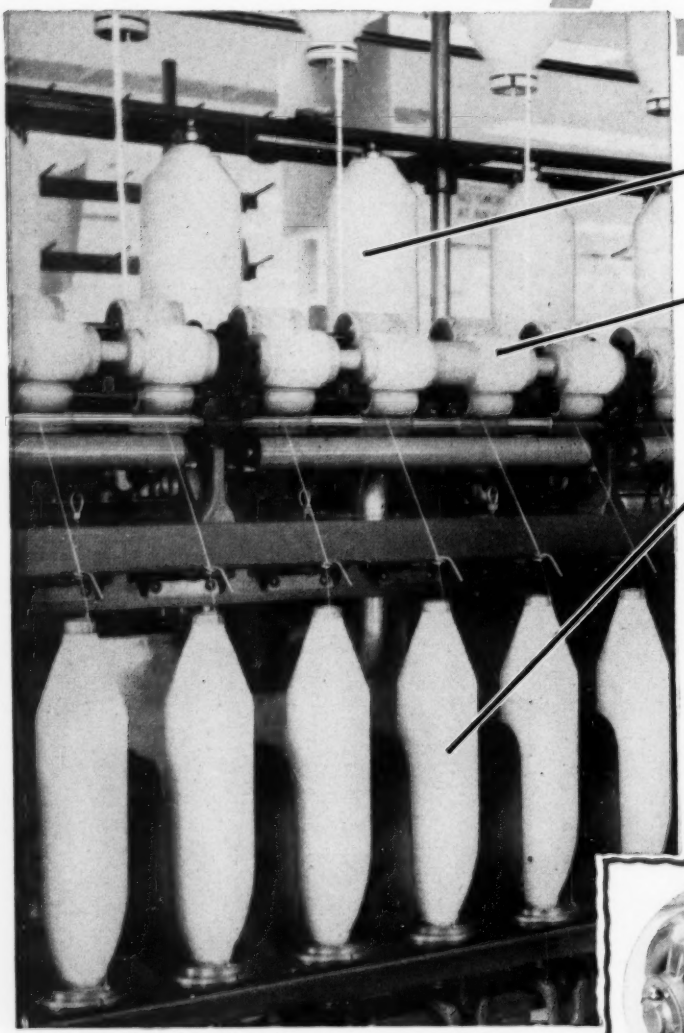
for **FLEXIBILITY**

PERFORMANCE

ECONOMY of OPERATION

. . . it's the Whitin Model "F3" large package Spinning Frame



Close-up showing 11" packages of 10's cotton, using 3" ring.

Creel—easily accessible

Standard height creels are easy for the operator to reach, and provide ample storage space on the top deck for roving supply packages.

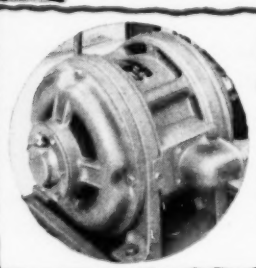
2-apron drafting system

The two apron drafting system, developed, perfected, and used by Whitin for twenty-two years, is recognized as outstanding for fiber control and drafting performance. Highly flexible in range of drafts, it is easy to clean and to operate.

Traverses up to 11"

With traverses up to 11" and packages containing up to 16 oz. on coarse counts, substantial savings in spinning can be made, with equal or superior yarn strength and quality. In addition, sharp reductions in winding costs are effected.

The Whitin F-3 Spinning Frame is designed for spinning large packages at high productive speeds. Its functional design results in minimum expense of installation operation, doffing, creeling, cleaning, lubricating and maintenance. Provision for changing traverse length and ring size has been made to insure its flexibility in meeting present and future mill requirements.



Low power consumption

The standard textile motors used keep installation, power consumption and maintenance costs at a minimum.

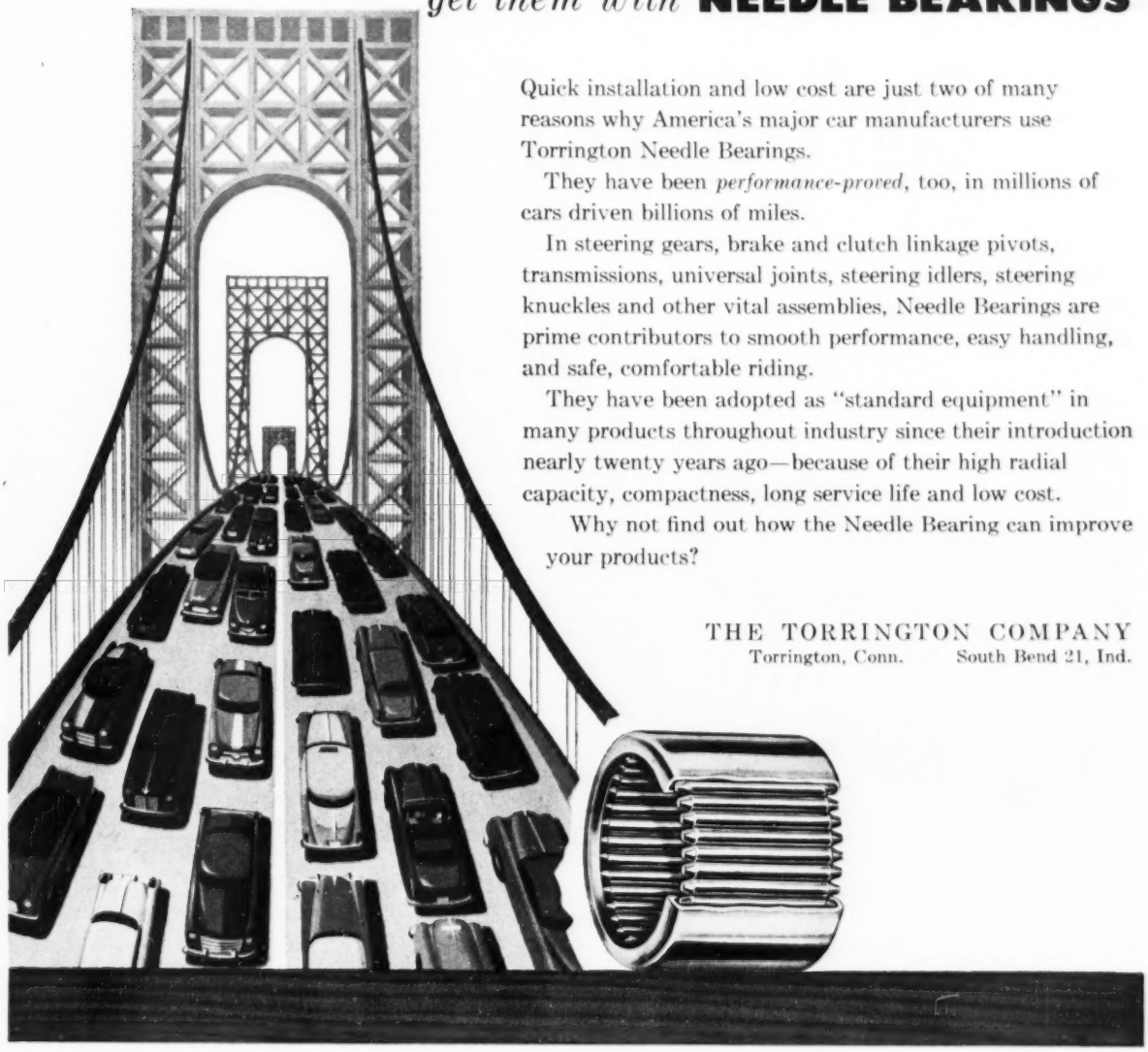
Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. · ATLANTA, GA. · SPARTANBURG, S. C. · DEXTER, ME.

Are Easy Assembly and Low Cost "Musts" for You?

Here's how leading automobile manufacturers get them with NEEDLE BEARINGS



Quick installation and low cost are just two of many reasons why America's major car manufacturers use Torrington Needle Bearings.

They have been *performance-proved*, too, in millions of cars driven billions of miles.

In steering gears, brake and clutch linkage pivots, transmissions, universal joints, steering idlers, steering knuckles and other vital assemblies, Needle Bearings are prime contributors to smooth performance, easy handling, and safe, comfortable riding.

They have been adopted as "standard equipment" in many products throughout industry since their introduction nearly twenty years ago—because of their high radial capacity, compactness, long service life and low cost.

Why not find out how the Needle Bearing can improve your products?

THE TORRINGTON COMPANY
Torrington, Conn. South Bend 21, Ind.

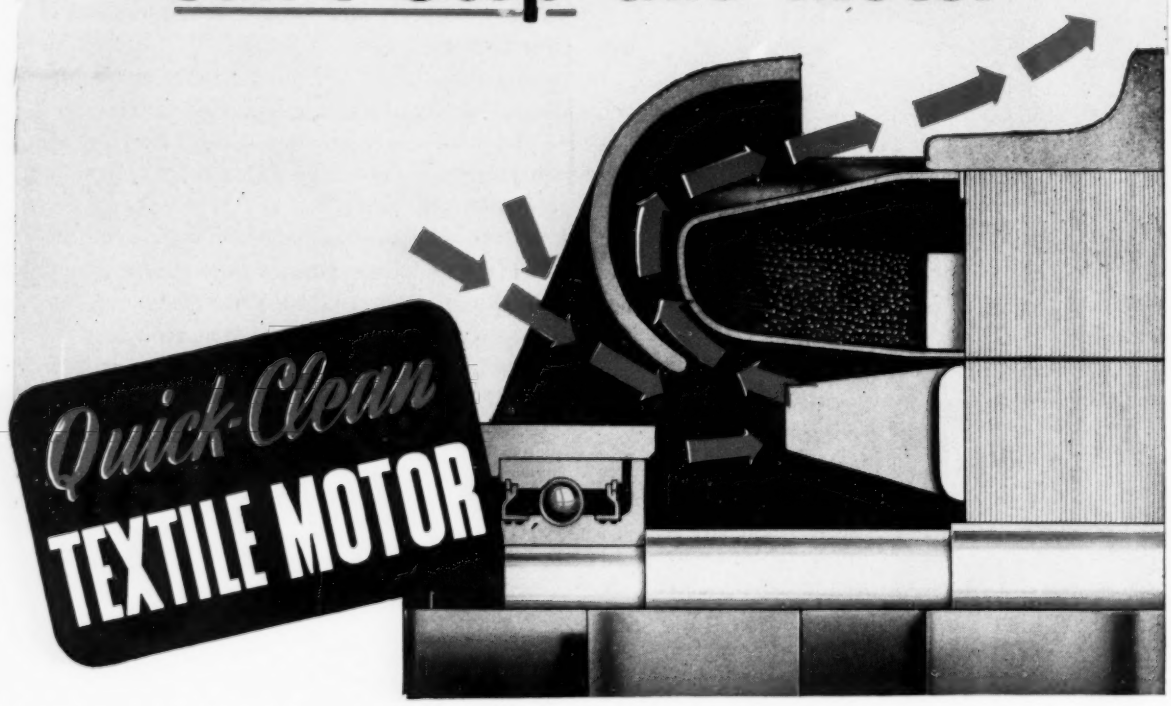
TORRINGTON NEEDLE BEARINGS

Needle • Spherical Roller • Tapered Roller • Cylindrical Roller • Ball • Needle Rollers

Trade Marks of 12 of the 18 passenger car manufacturers, all of whose cars enjoy the benefits of Needle Bearings.

STUDEBAKER · CHRYSLER · DODGE · Packard · DeSoto · WILLYS · Nash · KAISER · LINCOLN · Ford · MERCURY

Here's Why Dirt and Lint Can't Stop this Motor



Wide Open Design Allows Powerful Fans To Sweep Lint And Dirt Right Out Of Quick-Clean Motor!

YOU HAVE NO MOTOR PROBLEM from lint-laden atmospheres when you use *Quick-Clean* textile motors. *Quick-Clean* motors have wide open passages for cooling air and powerful fans to sweep lint and dirt right out of the motor. Inside surfaces are smooth and hard so lint cannot lodge anywhere. Air passages are shaped for smooth air flow.

Quick-Clean motors also save you money with sealed bearings which eliminate usual expensive bearing maintenance procedures. Grease or oil cannot leak from the bearings to soil materials or gather lint and dirt. Lint and dirt cannot enter the bearing. Ask your nearest Allis-Chalmers Sales Office about the *Quick-Clean* textile motor. Or write for Bulletin 51B6055. Allis-Chalmers, Milwaukee 1, Wis.

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Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

Sold . . .
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Serviced . . .

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CONTROL — Manual, magnetic and combination starters; push button stations and components for complete control systems.

TEXROPE V-belts in all sizes and sections, standard and *Vari-Pitch* sheaves, speed changers.

PUMPS — Integral motor and coupled types from ¾ in. to 72 in. discharge and up.

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Gaylord Boxes are Easy to Set Up... Hard to Break Down

Solid, straight-standing Gaylord Boxes are designed for fast handling and product protection . . . from packing until final delivery. Your best assurance of tough, resilient, corrugated boxes is Gaylord's careful quality control . . . from the planting of pulp forests, through every step of box manufacture.

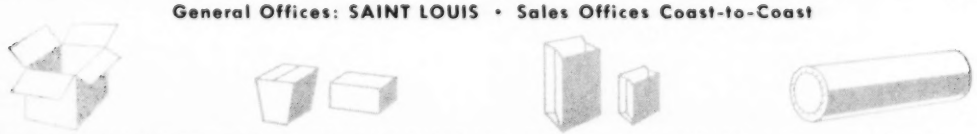
For sturdy boxes with easy handling and attractive appearance "built in," contact your nearby Gaylord Sales Office. You'll find it listed under "Boxes (Gaylord)" in the classified section of your phone book.

Gaylord Boxes

Their seen and unseen quality gives you an extra margin of safety.

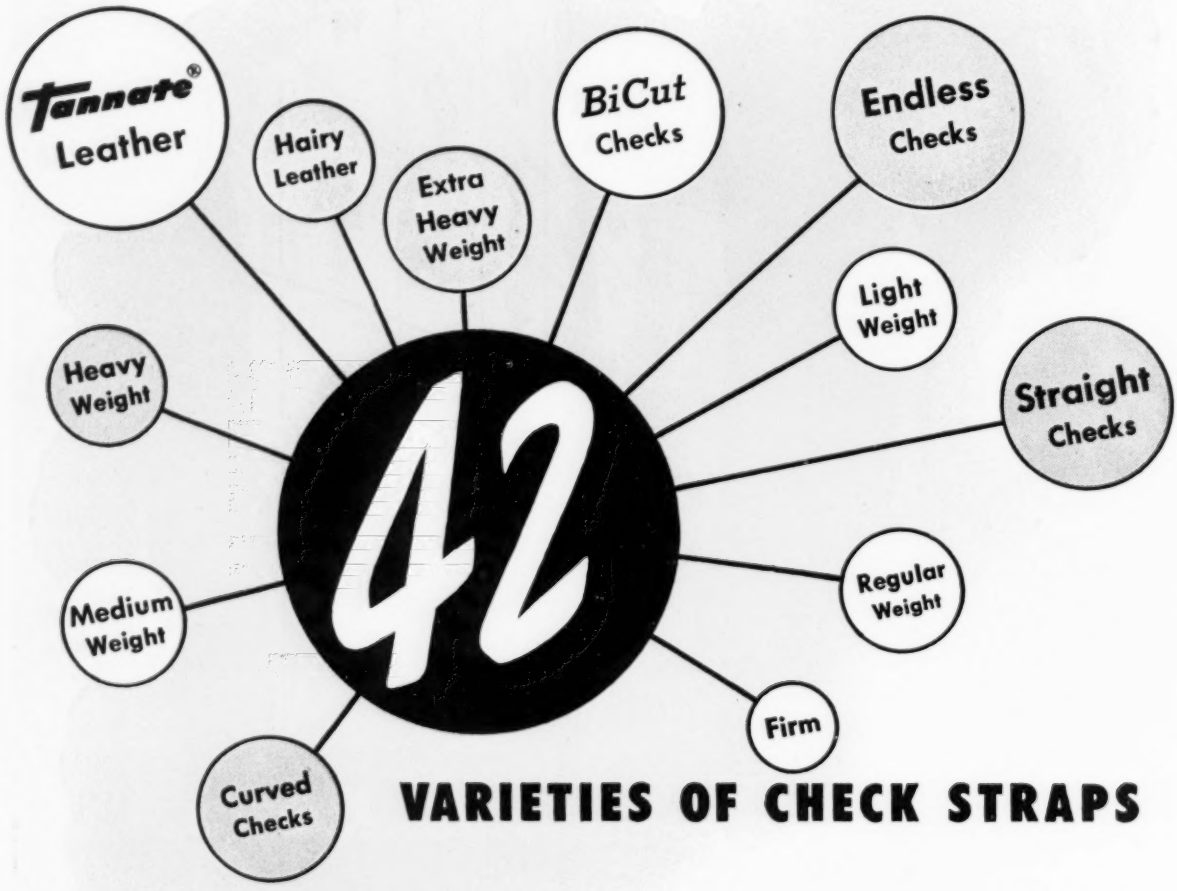
GAYLORD CONTAINER CORPORATION

General Offices: SAINT LOUIS • Sales Offices Coast-to-Coast



CORRUGATED AND SOLID FIBRE BOXES • FOLDING CARTONS • KRAFT BAGS AND SACKS • KRAFT PAPER AND SPECIALTIES

NOW, YOU CAN SELECT THE EXACT CHECK STRAP FOR BEST RESULTS



There's a Rhoads Check Strap to Meet Your Requirements! . . . Available in four styles (Rhoads patented BiCut, straight, curved and endless), two tannages (Rhoads exclusive Tannate Special Leather and the new Rhoads hairy leather), four weights (extra heavy, heavy, regular and light weight), and three degrees of firmness (firm, standard and mellow) all custom-cut to your specifications. Exclusive tanning and finishing processes build into Rhoads' check strap leathers the qualities you need for smooth, efficient loom operation.

Why Rhoads Makes 42 Varieties of Check Straps . . . Because we want to be able to offer you exactly the right check strap to meet the temperature and humidity conditions in your mill, the width of your looms, the cloth being woven, even the personal preferences of loom fixers. All these factors influence check strap efficiency which in turn, is important to the quality and continuity of production.

Direct Factory Representatives Insure Satisfaction . . . Our own force of experienced field representatives will be glad to assist you in the selection of the check straps best suited to your requirements. In this way, we can insure still further, your complete satisfaction with our straps. So get the complete story on Rhoads Check Straps now, before you place your next order.

Send for This Folder . . . Free of Charge . . . You'll want this folder because it outlines the complete specifications for each of the 42 check straps we now offer. It's something you'll want to keep, too, because it can be used as a handy desk or wall chart for quick reference.

For your *free* copy, call or write:

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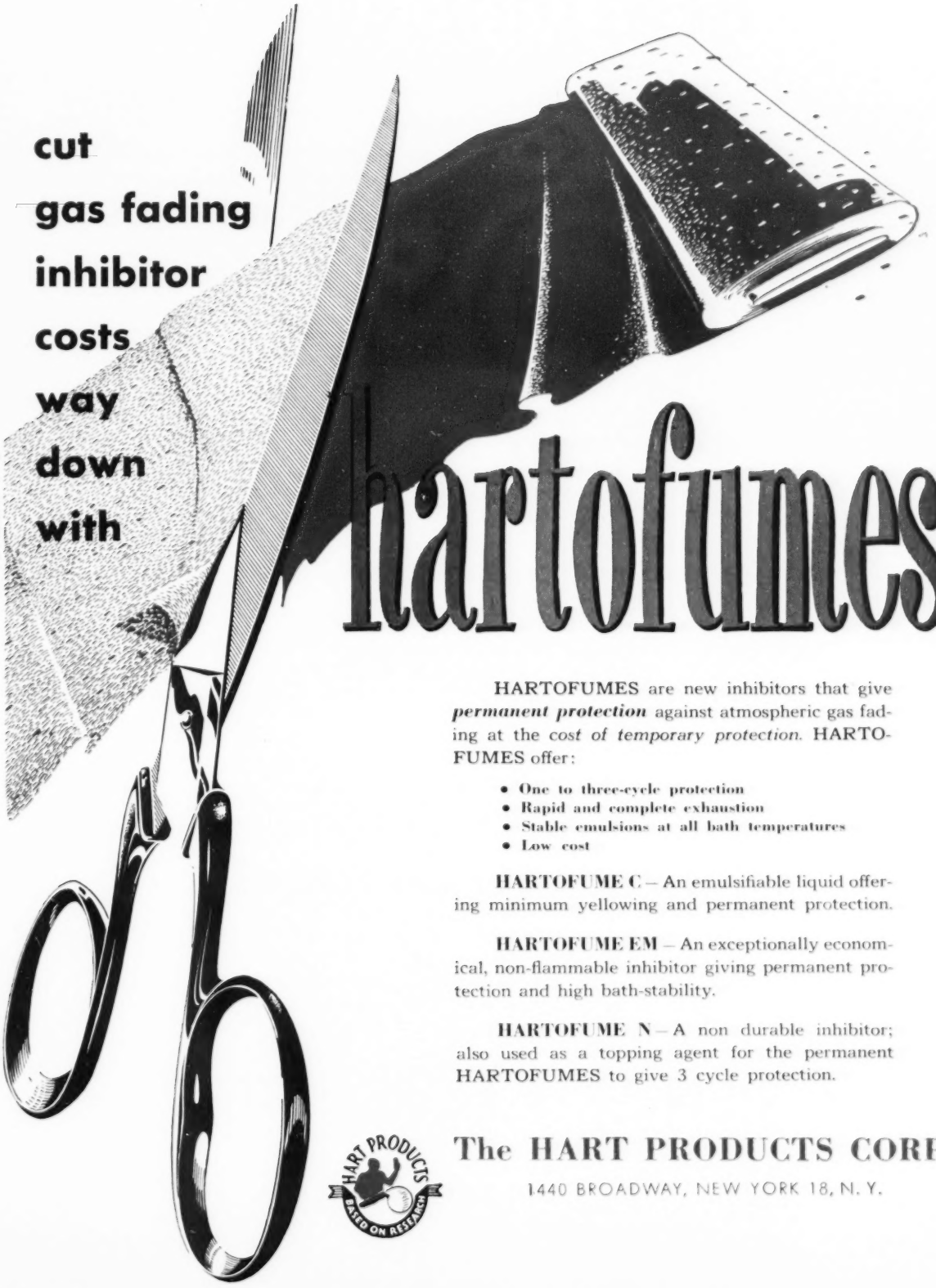

cut gas fading inhibitor costs way down with

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HARTOFUMES are new inhibitors that give ***permanent protection*** against atmospheric gas fading at the *cost of temporary protection.* HARTOFUMES offer:

- **One to three-cycle protection**
- **Rapid and complete exhaustion**
- **Stable emulsions at all bath temperatures**
- **Low cost**

HARTOFUME C – An emulsifiable liquid offering minimum yellowing and permanent protection.

HARTOFUME EM – An exceptionally economical, non-flammable inhibitor giving permanent protection and high bath-stability.

HARTOFUME N – A non durable inhibitor; also used as a topping agent for the permanent HARTOFUMES to give 3 cycle protection.

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PENFORD GUMS

(STARCH HYDROXYETHYLETHERS)

(U. S. PAT. NOS. 2,516,632; 2,516,633; 2,516,634)

★ ★ ★ ★ ★ ★ ★

Penford Gums are proving their superiority in mill after mill for warp sizing of combed cotton, wool, viscose, acetate, hydrophobic synthetic fibers such as nylon, dacron, dynel, orlon, acrilan, and blends of natural and synthetic staple fibers.

★ ★ ★ ★

SIZING OF COMBED COTTON WARPS—Penford Gum 220 and 230 offer maximum weaving protection in high count combed yarn warps, impart the characteristic hand desired on loom finish combed fabrics, virtually eliminate problems of roll marks and hard size on the warps.

SIZING OF WORSTED WARPS—Penford Gums 260, 270, and 280 are demonstrating their superior fliming characteristics to provide a flexible sized worsted warp with excellent abrasion resistance for minimum shedding and maximum weaving efficiency.

SIZING OF SPUN VISCOSE, ACETATE AND BLEND WARPS—Penford Gums 230, 240, and 245 non-gelling properties have virtually eliminated seconds due to "roll marks" and hard size. Their tough, elastic films provide maximum weaving protection in low humidities to produce quality fabrics with a bare minimum of "set marks." In desizing, enzymes attack Penford Gums much more readily than the usual starch base sizings which greatly facilitates their 100% removal in the normal routine finishing plant processing of spun rayons. In fact, the Penford Gum sizings are so readily removed that several plants are currently securing excellent results by simply giving a good scour to some of their fabrics without benefit of an enzyme treatment.

SIZING OF SPUN NYLON, DACRON, ORLON, DYNEL, AND ACRILAN WARPS—Penford Gums 260 and 270 strong adhesion and tough but flexible protective films are complemented by suitable adjuncts to provide an economical production mill size for the newer hydrophobic synthetic fibers such as Nylon, Dacron, Orlon, Dynel, and Acrilan with the elimination of clinging and fuzz balls in weaving.

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INCORPORATED

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the Old Grey Mare

is better than ~~ain't what~~

she used to be

Thanks to Meadows "Conversions," thousands of long-service spinning and twisting frames... many of them old enough to have been "turned out to pasture" . . . are running faster and smoother, and turning out more yarn than they did in the yearling days.

A typical Meadows "Conversion" consists of the installation of individual drive pulleys, ball bearing tape tension pulleys, aluminum alloy separators, silent chain drive—and high strength polished and ground steel shafting, mounted on heavy-duty, self-aligning ball bearings.

The result is lower power consumption, even tension at all times, a more uniform speed and twist, fewer ends down, and increased yarn production . . . at far less than the capital investment cost of new frames. Can be quickly and easily installed. Write or call us for estimate and particulars.

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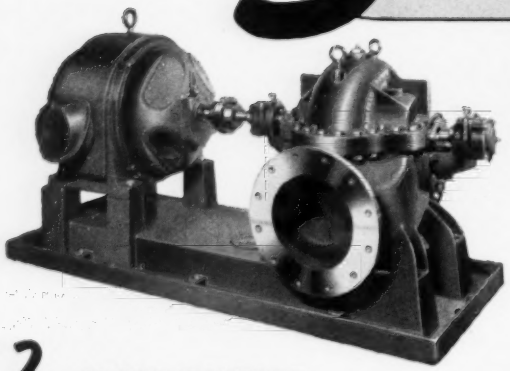
For further information use Handy Return Card, Page 184

"Buffalo"

Tips on Better Pumping

3 TYPES of PUMPS and what each offers you —

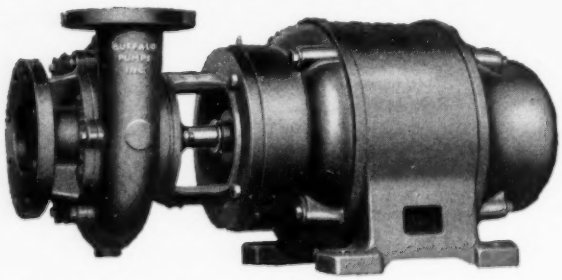


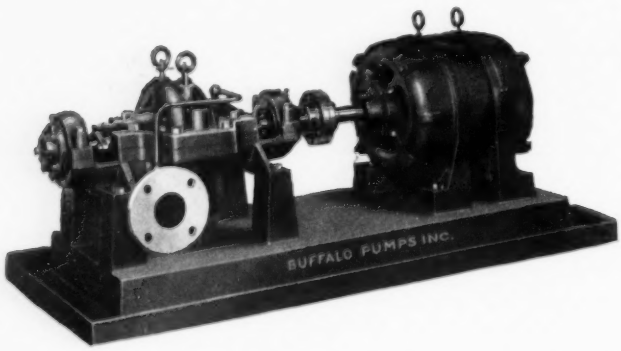
1. DOUBLE SUCTION

This "Buffalo" Pump offers a high degree of efficiency in pumping large volumes of clear water. Available in capacities for 10 to 10,000 gpm at up to 300 ft., these pumps are hydraulically balanced—water entering both sides of the impeller in equal volume and pressure. Bearings on each end of shaft mean extra long wear. Horizontally divided casing makes for extreme accessibility in inspection and servicing. Full details in BULLETIN 955-P.

2. CLOSE-COUPLED

Here is a ruggedly compact pump for those "close-quarters" installations. Pump and motor are rigidly mounted together with impeller on motor shaft, which means *permanent alignment.* "Buffalo" builds these pumps in a variety of alloys for specific liquids, with threaded or flanged inlets and outlets. Pump casing may be rotated, or removed for inspection—an important maintenance factor. WRITE for BULLETIN 975-B.





3. MULTI-STAGE

Each extra stage adds pressure! That's why pumps like these "Buffalo" Type "RR" (2 and 4-stage models) operate efficiently against high pressures (500 psi or 1500 ft. heads). These "Buffalo" Pumps have proven themselves very durable in boiler feed and other clear water installations. Bearing support on both ends of the shaft—rugged, horizontally divided casing—solid, rigid base—all contribute to easy maintenance and long life. For further details, WRITE for BULLETIN 980-B.

"Buffalo" BUFFALO PUMPS, INC.

175 MORTIMER STREET BUFFALO, N. Y.

Subsidiary of Buffalo Forge Company

Canada Pumps, Ltd., Kitchener, Ont. Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

Seal of Achievement

In the last fifty years we have witnessed—and made significant contributions to—the technical progress of the textile industry. Continuous cooperation between this industry and our research and field staffs is the key to our successful development of an impressive group of efficient products for textile application. Following are a few of those which we feel have earned our Seal of Achievement:

***ALGEPON V A**™ Auxiliary for use in dyeing vat colors to retard reoxidation of the reduced bath with consequent production of a full, uniform shade;—also effective in stripping vats and naphthols.

***ANTHOMINE**™ Auxiliary for wool dyeing, produces full even shade and soft hand in stock, yarn and cloth—excellent for tippy wool.

ARIPERM P M™ Protects dyed acetates from atmospheric gas fading. May be applied directly in dyebath or on quetsch as a finish.

ARKOIL EMULSION Appropriate blend of vegetable oils for use as a stock lubricant in carding and spinning cashmere, angora and fine wool yarn. Contains no mineral oil and scours completely out of the yarn or subsequent fabric with minimum mechanical action.

ARKOLENE™ A group of very fast wetting out and penetrating agents. Used in wetting out, carbonizing, dyeing and finishing baths where rapid and complete penetration of the liquor is desired.

CENATOL H S Naphthol dyeing auxiliary for hot method of naphtholating. Insures a clear bath without use of alcohol.

CULOFIX™ Dye fixative designed to prevent color migration and bleeding of direct dyeings. Also imparts a soft, pleasing finish.

***DERGON O M**™ Highly concentrated nonionic detergent that is very effective in replacing soap in scouring wool, yarn and pieces.

HYDRO-PRUF™ Durable silicone water repellent. Produces exceptionally high spray ratings on many types of fabrics that withstand numerous washings and dry cleanings, without substantial loss of water repellency.

KERANOL N K™ Produces a durable soft, mellow hand in wool, cotton and rayon fabrics. Resists yellowing during storage and can be used in alkaline, neutral or acid finishing baths or with resin finishes.

***PARAMEL G T**™ Outstanding softener for finishing cottons, rayons and synthetic blends. Excellent resistance to yellowing.

***PARAMINE**™ A cationic substantive finish that is used to impart fullness and increased softness to synthetic and natural fibres.

PARAPON S A™ Exceptional leveler for dyeing operations where it is difficult to obtain a uniform, full shade. Particularly useful in dyeing acetate fabrics for dispersing the color and as addition to dyebath for even shade throughout the pieces.

VARKON F P™ Metal sequestering agent that is particularly effective for overcoming troublesome iron contamination of dyebaths. Assists in production of bright full shades.

*PATENTED

ARKANSAS CO., INC. · NEWARK, NEW JERSEY

Products for all Textile Processes

BLEACHING	DYEING	MILDEW-PROOFING	SCOURING	STRIPPING
DELUSTERING	FINISHING	MOTH-PROOFING	SHRINKAGE-CONTROL	THROWING
DISPERSING	LUBRICATING	PENETRATING	SOFTENING	WATER-PROOFING

For better Warp Sizing ...Finishing...Printing

OK BRAND

TEXTILE STARCHES

• Always uniform! • Tailor-made for your requirements! • Always dependable!

FREE TECHNICAL SERVICE!

Many expert textile men are members of the permanent technical staff of Hubinger's famous laboratories. You are invited to consult these experts on any production problem involving the use of starch—without cost or obligation on your part.

...the Stamp of Quality!

THE HUBINGER CO. (EST. 1881), KEOKUK, IOWA

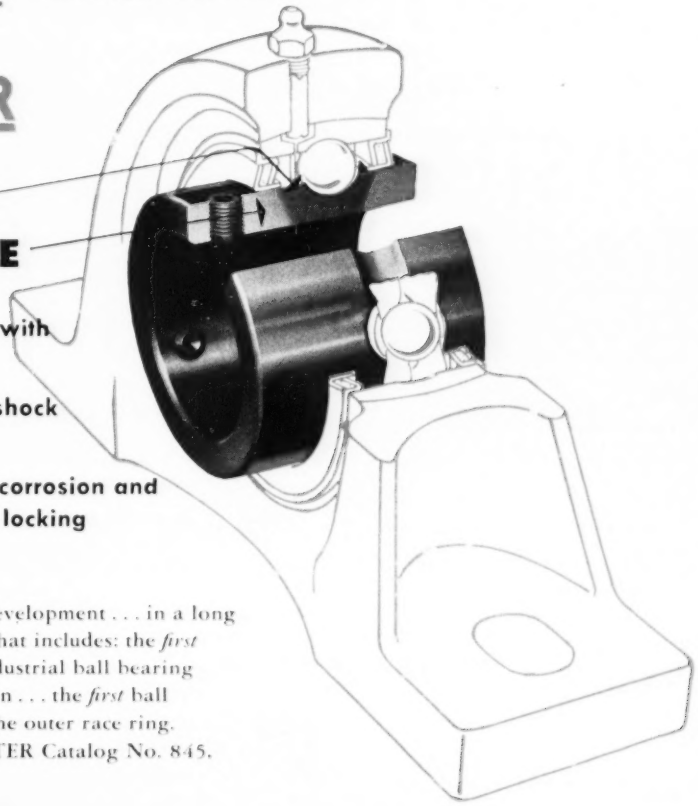
Branch offices: Boston • New York • Charlotte • Chicago • Los Angeles

ZONE HARDENING*

for MAXIMUM LIFE EXPECTANCY in EVERY BEARING!

Only SEALMASTER

is **HARD HERE**
but **SOFT HERE**



- to permit race-to-shaft locking with increased holding power
- to insure greater resistance to shock and vibration
- to minimize danger of fretting corrosion and eliminate shaft wear by firmer locking of bearing to shaft

Zone Hardening is another major development . . . in a long history of SEALMASTER advances that includes: the *first* self-aligning, permanently sealed industrial ball bearing unit . . . the *first* outer race locking pin . . . the *first* ball retainer riding the inner surface of the outer race ring.

Write for your copy of SEALMASTER Catalog No. 845.

ZONE HARDENED
PERMANENTLY SEALED
SELF-ALIGNING • PRE-LUBRICATED
FLOATING BALL RETAINER

*ZONE HARDENING

is a completely automatic heat treating process by which the inner race ring of SEALMASTER Ball Bearing Units is hardened through ball path section *only*. (See cutaway view.) The extended part of the inner race is left in its original metallurgically soft, tough state. Hardened set screws are mounted through this soft portion, to provide firm race-to-shaft locking and the performance advantages mentioned above. ZONE HARDENING is patented—exclusively SEALMASTER'S!

SEALMASTER BEARINGS

A Division of Stephens-Adamson Mfg. Company
74 Ridgeway Avenue, Aurora, Illinois

FACTORY REPRESENTATIVES AND DEALERS IN ALL PRINCIPAL CITIES

Cut Costs
still further!
WITH THE
HYSTER LOAD-GRAB

Hyster case records consistently prove that handling costs are being reduced *still further* with the Hyster Load-Grab—as compared to handling by other methods! Hyster pioneered and developed the Load-Grab attachment illustrated here. Today, the Load-Grab is the industry's accepted standard of operation! YOU SHOULD SEE THE HYSTER LOAD-GRAB WORKING! The Hyster Load-Grab works beautifully with the NEW HYSTER WATERCOOLED 3000-LB. TRUCK which is smaller than most 2000-lb. trucks. The Load-Grab works on all 2000 (as pictured), 3000 and 4000-lb. Hyster trucks.

Call your Hyster Dealer, or write for information directly to:

HYSTER COMPANY

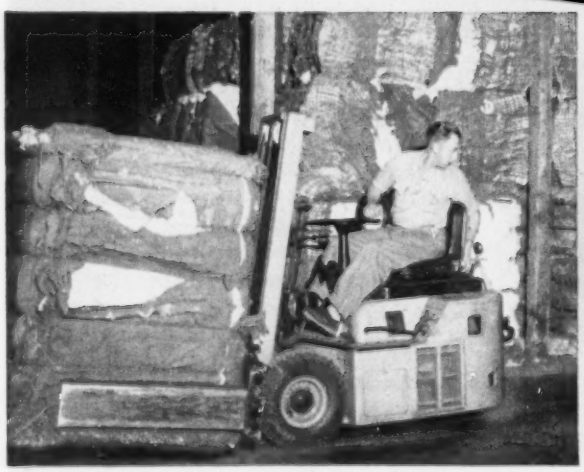
2902-57 N. E. Clackamas.....Portland 8, Oregon
1010-57 Myers Street.....Danville, Illinois

HYSTER COMPANY • Four Factories: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands.

THERE'S PROFIT IN HYSTER POWER

HANDLES 3 BALES AT A TIME

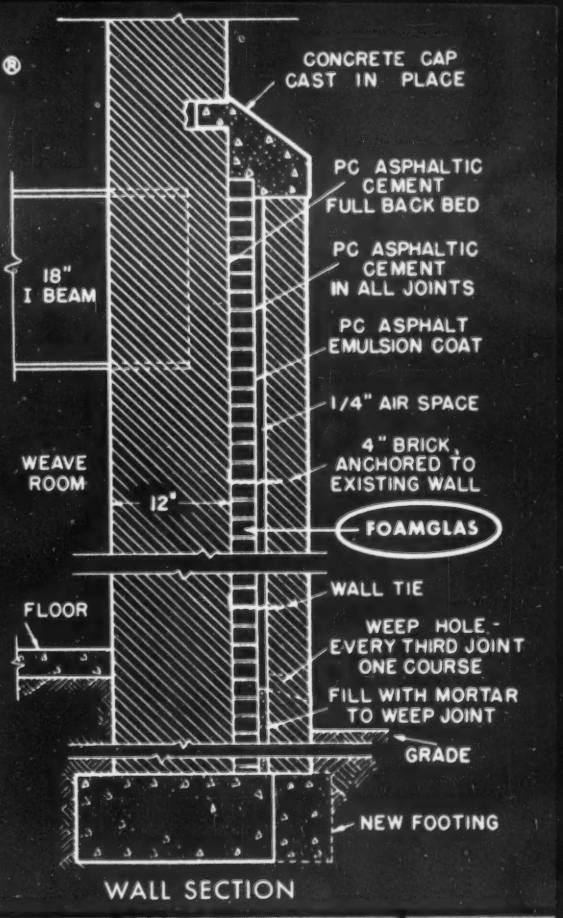
FASTER, EASIER BOXCAR LOADING



POSITIVE GRIPPING ACTION

HANDLES BALES VERTICALLY AND HORIZONTALLY

"FOAMGLAS® insulation stopped condensation without shutting down our weave room"



WALL SECTION

Consulting Engineer:
Hill & Hill, Welford, S.C.

M. Lowenstein & Sons' Vice President and Plant Superintendent, T. G. Roche, reports: "At our Limestone Mills, Gaffney, S.C., we benefited two ways from FOAMGLAS insulation. . . . It has eliminated permanently condensation on the weave room walls, enabling us to maintain constantly the required 80° temperature and 85% humidity. Also, we were able to install the rugged, waterproof blocks of FOAMGLAS outside the walls, avoiding a costly stoppage of the looms for weeks."

Let FOAMGLAS provide *you* with constant insulating efficiency coupled with long, trouble-free life. Use the coupon now for full information.

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Please send me free sample and booklets on use of FOAMGLAS for:

- ☐ Normal Temperature Buildings
- ☐ Piping and Equipment
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☐ Send engineer to help with specific problem
☐ Advise nearest source of supply

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"Tailored" Pickers and Help Many Mills

By Varying the Density at Vital Points, the Dayton Thorobred Drop Box Picker Safely Absorbs All Strains and Stresses of Impact

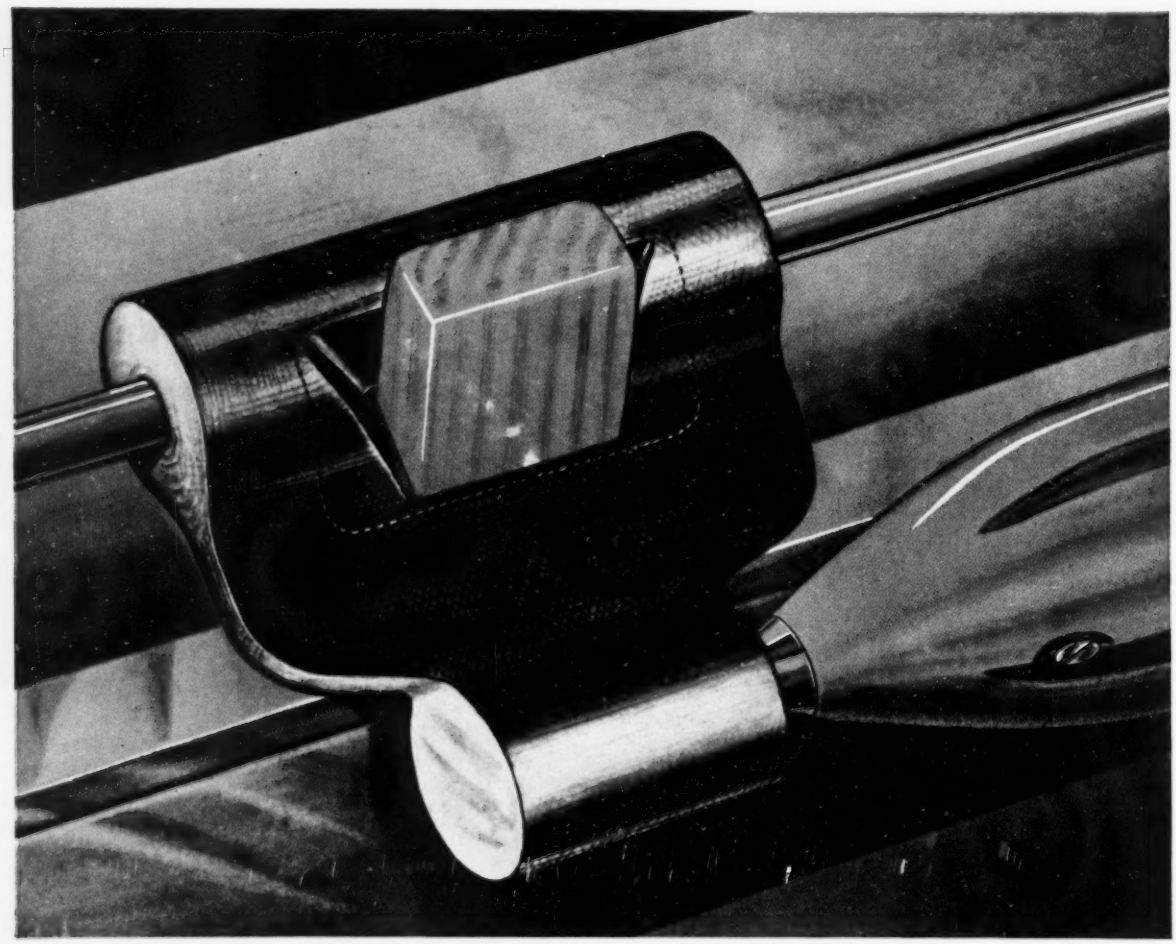
There's a good reason why Dayton Thorobred Drop Box Pickers perform so satisfactorily on today's high speed looms—they are "tailor-made."

For instance, at the shuttle contact point, the exact density or softness easily absorbs the shocks of shuttle receiving. It also eliminates shuttle point loosening and helps assure a perfect throw throughout life of picker.

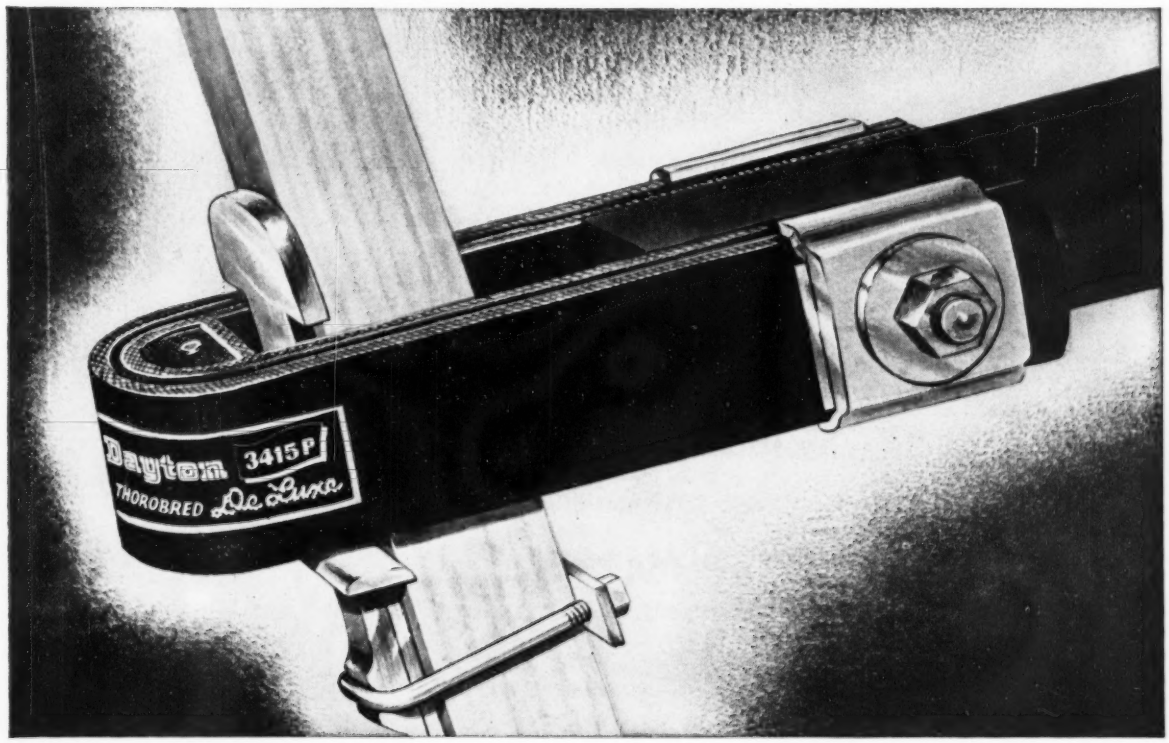
Then, *at the picker stick contact point,* just the right amount of cushion has been provided to absorb the terrific impacts. This results in less wear on the stick and longer life for the picker.

And, at the spindle hole, to minimize wear a hard composition bearing surface is built into the picker. This requires no lubrication and will not wear egg shaped.

This density control at these vital points is molded into a one-piece picker. The result is more efficient loom operation and lower picker costs. Ask your loom supply jobber for further information on Dayton Drop Box Pickers, or write Dayton Rubber direct.



Lug Straps Reduce Weaving Costs



Extra Strength Built Into Dayton Thorobred Lug Straps Assures Long, Trouble-Free Service at Low Cost

Mills that equip their looms with Dayton Thorobred Lug Straps enjoy low replacement costs. There are several reasons for this.

In the first place, Daytons are built all in one piece—no rivets or parts to work loose. Another thing, Daytons have exactly the right amount of cushion built right into the lug. This cushion means not only the ability to "give" under impact, but also the ability to "come back" immediately. This saves wear and tear on the loom, and enables the strap to give longer service.

Another important advantage of Dayton Lug Straps is their extra strength. This is obtained chiefly from a special longitudinal cord, right in the center of the lug, which provides the desired extra strength along the line of force.

As a result of their sound engineering design, Dayton Thorobred Lug Straps are leaders in their field for efficient service at the lowest possible over-all cost. Ask your loom supply jobber for further details, or better still, try some now on your own looms. You'll soon be convinced.

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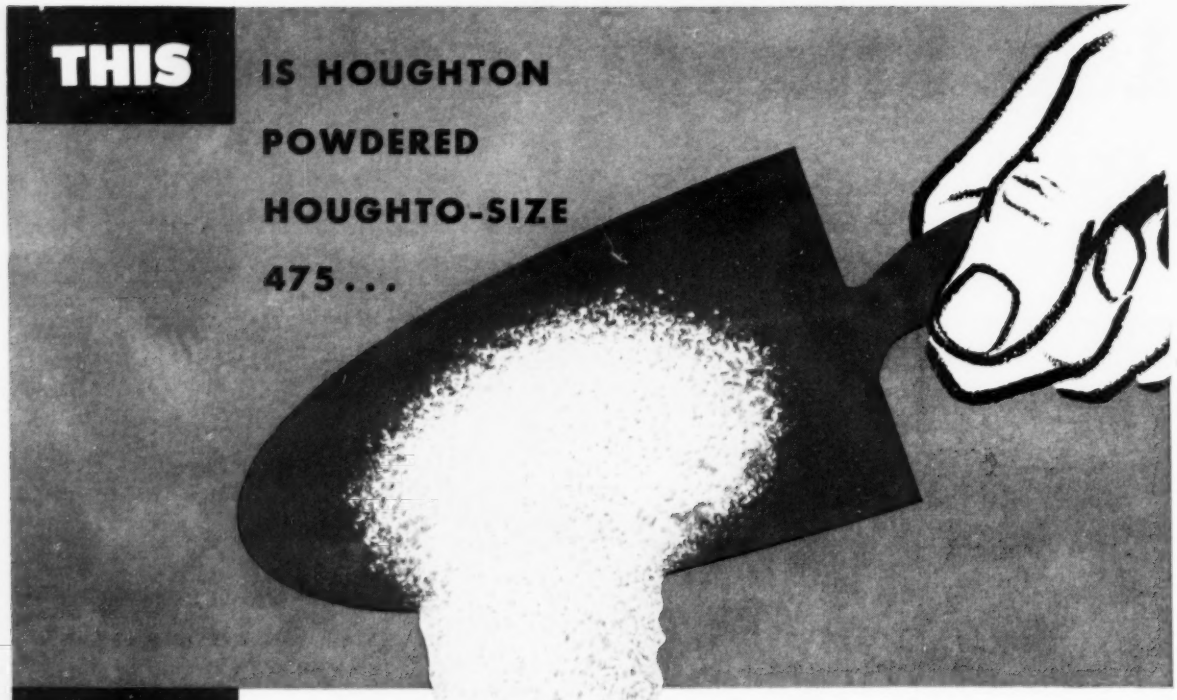
Dayton Rubber

Since 1905

TEXTILE PRODUCTS FOR BETTER SPINNING AND WEAVING

Dayton Rubber Co., Textile Division, Woodside Bldg., Greenville, S. C.



HERE is why this newly developed one-piece warp size gives you such good results

- Handling is simplified—no extra gums to add.
- Lower kettle cost—less required in warp size formulation.
- Good binding properties—reduces shedding on slasher and loom.
- Lowers production costs—provides sized warps that weave with maximum efficiency.
- Simple to test-prove—a size check-up test will be easy to make in your own mill. (We'll gladly run it for you.)

Make a test—get further evidence—find out why mill men get better looking fabrics with Houghto-Size 475. Ask the Houghton Man or write E. F. Houghton & Co., 303 W. Lehigh Avenue, Philadelphia 33, Pa.

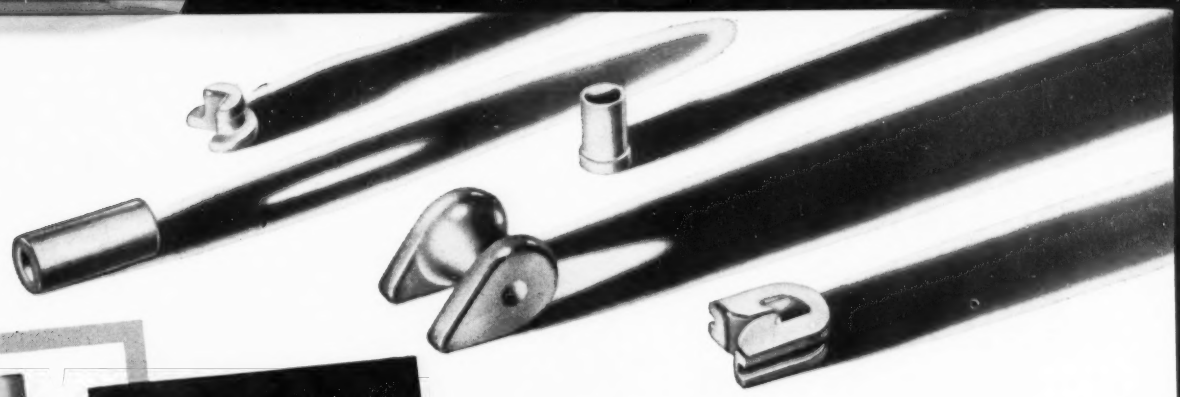
HOUGHTON TEXTILE PROCESSING PRODUCTS

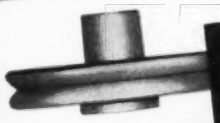
include a wide range of sizes, softeners, processing oils and surface active agents—for cottons, woolens and synthetics. Descriptive literature will be mailed promptly upon request.

HOUGHTO-SIZE 475
. . . a product of

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .





Since the first announcement of these guides more than two years ago, popular demand has been so great that this advertisement is repeated with the addition of three new AlSiMag guides. These guides are thoroughly proved by constant use in several hundred mills.

AlSiMag® GUIDES for WHITIN-SCHWEITER QUILL WINDERS

These AlSiMag Guides have been thoroughly proved in the winding of synthetic yarns at terrific speeds.

ADVANTAGES:

LONGER LIFE—Many mills report that these AlSiMag guides give 10 to 15 times the wear obtained from their best former guides.

LIGHTER TENSIONS—AlSiMag guides can be supplied in satin or highly polished finish.

MORE UNIFORM TENSIONS—AlSiMag guides are homogeneous and are uniform physically and dimensionally.

LESS GUIDE BREAKAGE—All AlSiMag materials are considerably stronger than ordinary ceramic guide materials. AlSiMag 513 has almost double their mechanical strength.

BETTER QUALITY YARN—Hard, homogeneous AlSiMag has no surface skin to wear through, cause undetected yarn damage. Guide wear is very gradual, simply exposes new surfaces of the same character as the original.

AlSiMag No. GE-20256

AlSiMag No. GS-24909-A

AlSiMag No. GE-28390

AlSiMag No. GU-10713-B

AlSiMag No. GE-16861

AlSiMag No. GS-24244

AlSiMag No. GE-15978

These AlSiMag Guides are available in either satin finish or highly polished finish in any of these AlSiMag materials.

ALSIMAG 192—(Considered standard). A non-conductor of electricity. Hardness of 8 on Mohs' scale. Gives exceptionally long life on most requirements. Ivory color.

ALSIMAG 193—A conductor of electricity, used for dissipating static charges. Metallic gray color. Otherwise it is identical to AlSiMag 192.

ALSIMAG 513—Super hard (9 on Mohs' scale), resistant to cracking, chipping, great mechanical strength. Its cost is justified where excessive wear is experienced or where satin finish must be maintained under severe conditions. Pink color.

TEST SAMPLES ON REQUEST

Try these AlSiMag Guides on your Whitin-Schweiter Quill Winders. You'll find that they are the best and by far the most economical.

52ND YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

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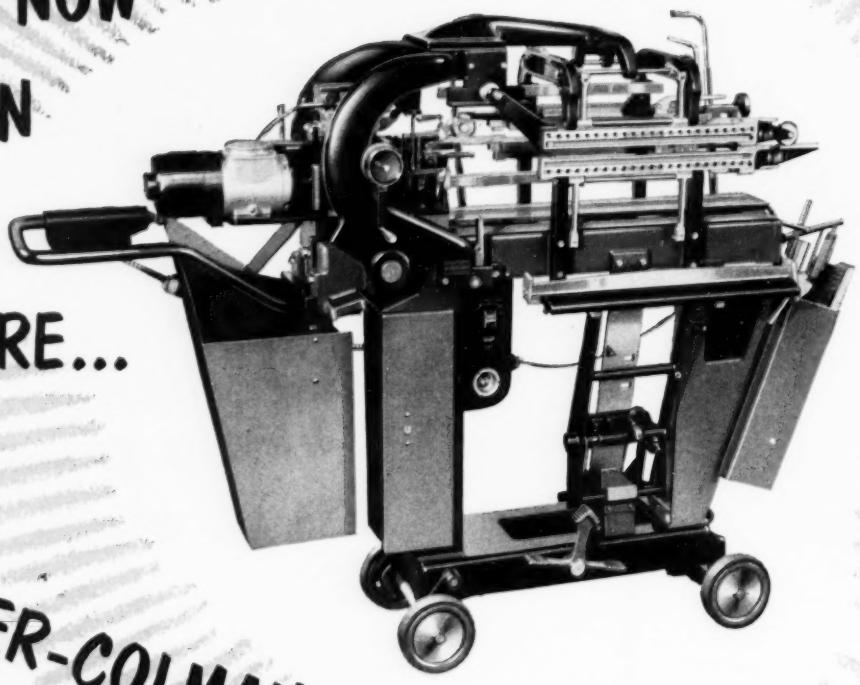
SALES ENGINEERS: NORTH AND EAST: Jay S. Gosnell, 671 Broad St., Newark, N. J., Mitchell 2-8159. SOUTHEAST: Joe E. Spearman, 401 Belton St., Charlotte, N. C., 4-1525. ALL OTHER AREAS: J. B. Shacklett, American Lava Corporation, Chattanooga 5, Tenn., 5-3411. CONTINENTAL EUROPEAN REPRESENTATIVE: P. C. Huguenin Luzern, Gerbergasse 6, Luzern, Switzerland

BOTH NOW AND IN THE FUTURE...



BARBER-COLMAN PORTABLE WARP TYING MACHINES WILL BE VALUABLE

...and here is why:

Barber-Colman Company has been well acquainted with the needs of the textile industry now for over half a century. The outstanding performance of Barber-Colman machines is well recognized. Barber-Colman branch offices provide close personal contact in the principal mill areas. Barber-Colman repair parts and maintenance service has made a name for itself that insures maximum life and operating efficiency for all Barber-Colman machines. The Company is steadily expanding its manufacturing plant, establishing the organization ever more firmly for continued superior performance of its products, and continued top-notch service, far into the future. Thus Barber-Colman offers you the certainty of continuing high value.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

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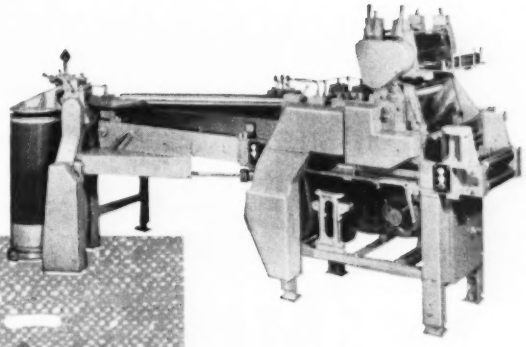
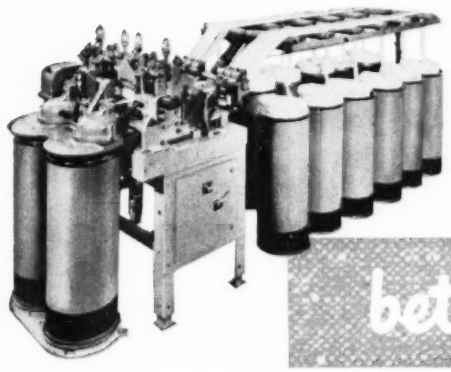
WARNER & SWASEY-PACIFIC CONVERTER

Now, in one efficient operation, the Converter cuts synthetic tow to desired lengths, evenly blends these fibers in exact percentages (or with wool or other fibers), delivering drawn sliver, sufficiently crimped for the subsequent drawing operations. It cuts costs on machines and labor—completely eliminating the opening, mixing, carding and combing operations of cut staple. Using the Converter and Pin Drafter in combination produces highest quality yarn with excellent uniformity of counts and evenness, and high tensile strength.



You can produce it—

WARNER & SWASEY PIN DRAFTER

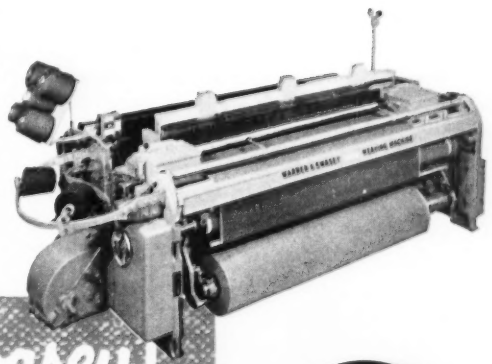


Pin Drafters produce better, more evenly blended sliver in greater volume—handling wool or synthetics, blends of either or both. Used in combing or drawing rooms, they eliminate machines and costly steps in the preparation of sliver for roving, and drastically reduce waste. Pin Drafters use either combed sliver or ball top—deliver to coiler cans or to single or double meche balls. Applicable to Bradford, French or American systems. Pin Drafters have established outstanding records for dependable service and low maintenance while building profits for hundreds of mills.

better, faster, for less—

WARNER & SWASEY-SULZER WEAVING MACHINE

This revolutionary new weaving machine has speeded production, improved quality of fabrics, and cut costs in every mill where it has been installed. Operating up to 240 picks per minute, filling is inserted by a series of small steel shuttles drawing directly from a large package. This eliminates many operations of the conventional bobbin-shuttle combination—bobbin winding, stripping, inspection, storage—in addition to simplifying handling and yarn inventory. This new machine drastically cuts mending costs and seconds. Savings in floor space and labor reduce overhead. Machines are available in reed widths of 80", 95" and 110", and one or more widths of cloth can be woven at one time on all sizes.



with a Warner & Swasey!

Call in your nearest Warner & Swasey Field Representative for all the facts!

SALES OFFICES:

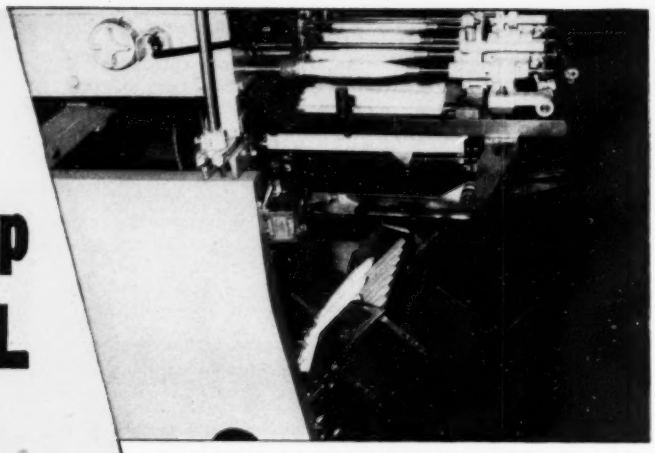
5701 Carnegie Avenue, Cleveland 3, Ohio
61 Rivulet St., North Uxbridge, Mass. 6910 Market St., Philadelphia, Pa.
Candler Building, Atlanta, Ga. 1820 Browning Ave., Charlotte, N. C.

WARNER & SWASEY Cleveland
PRECISION MACHINERY SINCE 1880
TEXTILE MACHINERY DIVISION

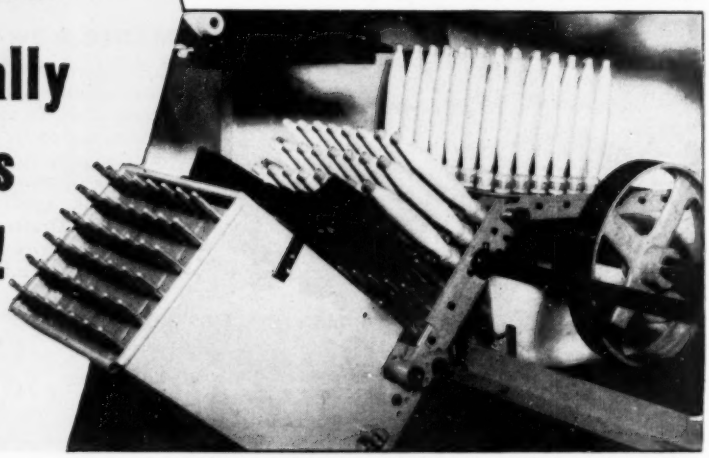
YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

Foster-Muschamp AUTOFILL WINDER

Now Automatically Loads Bobbins on Pinboards!



Showing how bobbins are automatically deposited on pinboards

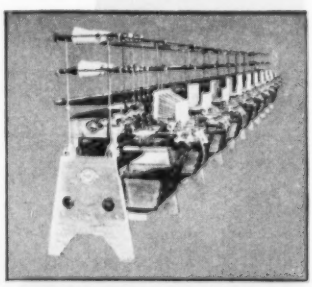


Showing pinboard box (which holds up to 6 empty pinboards), partially loaded pinboard and fully loaded pinboard

Pictured here is the most recent automatic action with which this machine has been endowed. After automatically winding filling bobbins with a precise lay of yarn (using no builder wheels), it now, by means of a PINBOARDING ATTACHMENT, automatically deposits the bobbins on pinboards — ready for storage, or transfer to the weave room!

Here are five ways you save cost and better your operations by using this improved machine:

1. No more cut or bruised filling yarns, due to one quill falling onto another.
2. Elimination of dirty filling caused by handling and rubbing on dirty surfaces.
3. Lower cost of moving bobbins from your Quilling Department to Weave Room.
4. Sorted colors on individual boards ready for colored yarn weaving — no hand sorting.
5. Efficient storage of full bobbins, protected against dirt and damage.



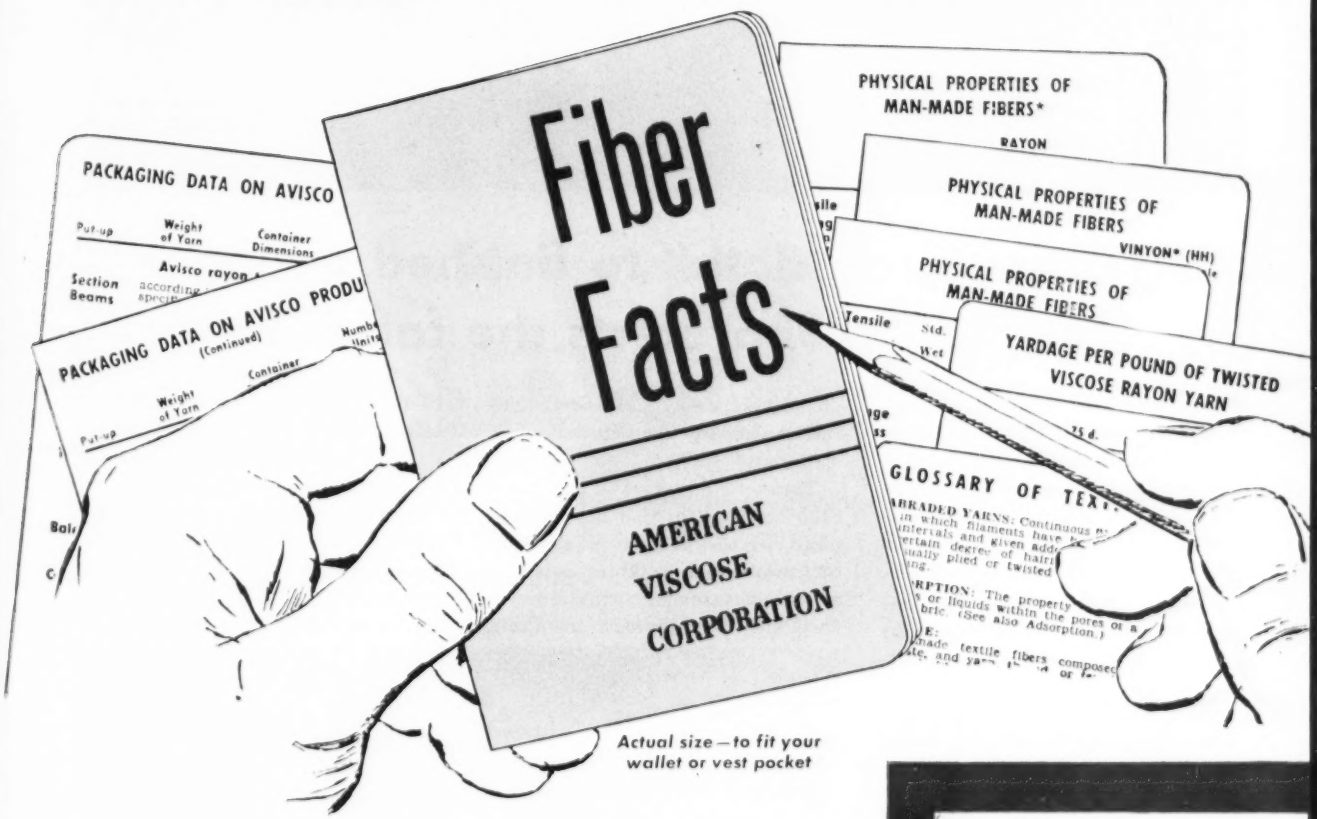
Learn about *all* the advantages of
The Foster-Muschamp Autofill Winder.
Write for Bulletin M-1.

FOSTER MACHINE COMPANY
WESTFIELD, MASS., U. S. A.
Southern Office: Johnston Bldg., Charlotte, N. C.

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. — June, 1951

YOUR NEW "FIBER FACTS" IS READY!


Fiber Facts
AMERICAN VISCOSE CORPORATION
PACKAGING DATA ON AVISCO
PACKAGING DATA ON AVISCO PRODU
(Continued)
PHYSICAL PROPERTIES OF MAN-MADE FIBERS*
RAYON
PHYSICAL PROPERTIES OF MAN-MADE FIBERS
VINYON* (HH)
PHYSICAL PROPERTIES OF MAN-MADE FIBERS
YARDAGE PER POUND OF TWISTED VISCOSE RAYON YARN
GLOSSARY OF TEX
Actual size—to fit your wallet or vest pocket

Latest Edition of Vest Pocket Handbook Includes Up-To-The-Minute Information

A newly revised edition of Avisco's "Fiber Facts" is now ready for distribution. The popular little handbook that slips into your wallet or vest pocket contains a wealth of essential information that mill executives and others in the textile industry find practically indispensable.

Included in the booklet's glossary are definitions of newer synthetic fibers. A new section gives important packaging data on Avisco rayon yarn, staple, tow, and tire yarn and fabric, as well as Avisco acetate yarn. Another addition is a Processing Tension Guide for warping, winding and throwing, and copping rayon and acetate filament.

Sections of the booklet give tables on physical properties of rayon and other synthetic fibers, denier conversion, spinning twist calculations, and warp yarn and filling yarn requirements. There is an up-to-the-minute listing of Avisco Textile Chemicals and their applications. Other features are a bibliography of rayon publications and a convenient calendar.

A request for the new 48-page edition of "Fiber Facts" on your firm's letterhead will bring your free copy promptly.

MAKE USE OF *Avisco*®
4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

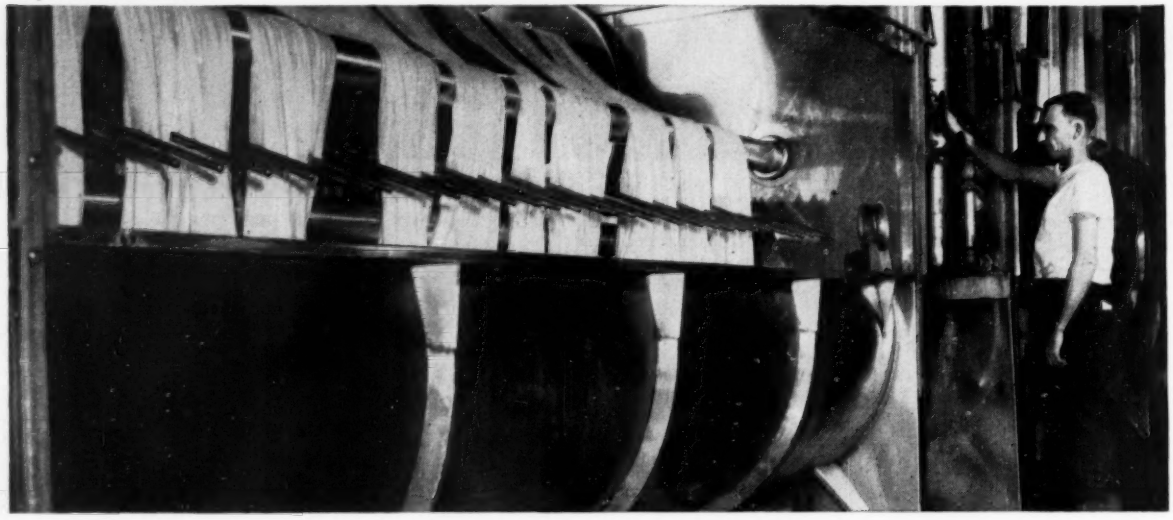
AMERICAN VISCOSE CORPORATION

America's first producer of man-made fibers
RAYON ACETATE VINYON* FILATEX®

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

*TMC & CCC

USED HERE as a dye beck, this Rodney Hunt Trushade unit is made entirely of Stainless Steel. These units also are used for bleaching, soaping and washing, and the ease with which Stainless can be hosed down makes it possible to change from one type of operation to another in just a few minutes.



From "gray cloth" to finished goods Stainless Steel protects the fabric best

PROCESSING approximately 2,500,000 yards of cotton and synthetic fabrics per week, North Carolina Finishing Company at Yadkin, N. C., relies heavily on Stainless Steel equipment to keep the product safe from rust contamination.

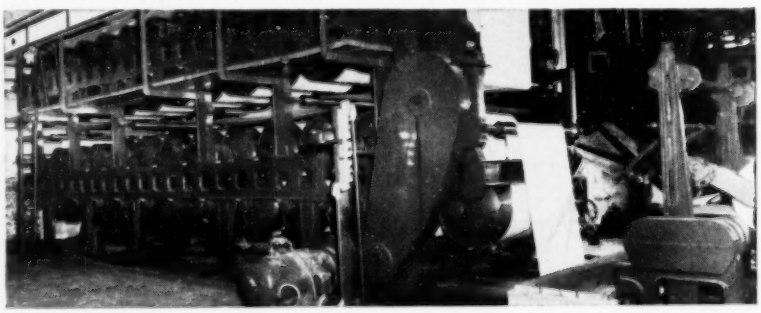
Cotton fabric first meets Stainless Steel in the bleaching operation. In just about all of the many succeeding operations the cloth comes in contact with Stainless Steel.

Washing after mercerizing takes place in wash boxes equipped with Stainless Steel boxes and rolls, and subsequent drying takes place on Stainless cans.

In dyeing, where continuous and pad jig methods and dye becks are used, the boxes, rolls, pipes and fittings are Stainless Steel. Stainless is ideal here because it can be cleaned quickly and easily and doesn't deteriorate, causing frequent and costly shutdowns.

These are only a few of the uses of Stainless Steel in this big finishing plant, but they are graphic examples of how Stainless Steel, with its smooth surface and corrosion resistance, not only protects the fabric best, but also far outlasts other materials. The result is less maintenance, fewer replacements and over-all lower operating costs.

You'll find Stainless Steel equipment can do the same for you. For finest performance, be sure your equipment fabricator uses perfected, service-tested U·S·S Stainless Steel.



THIS 50-CAN BUTTERWORTH DRYER, used for drying the cloth after the washing that follows the mercerizing stage, is equipped with cans of Stainless Steel.

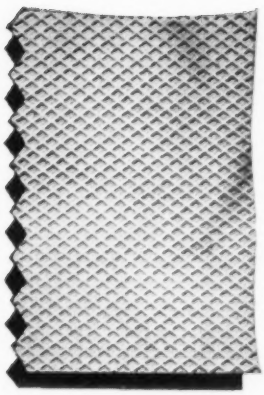
UNITED STATES STEEL CORPORATION, PITTSBURGH • AMERICAN STEEL & WIRE DIVISION, CLEVELAND • COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
NATIONAL TUBE DIVISION, PITTSBURGH • TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA. • UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

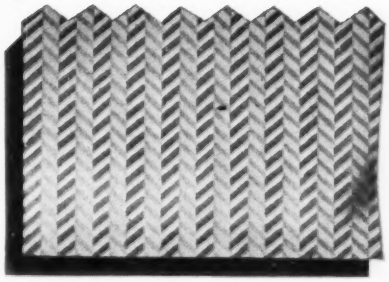
U·S·S STAINLESS STEEL

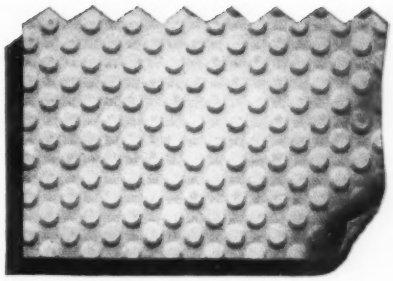
SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

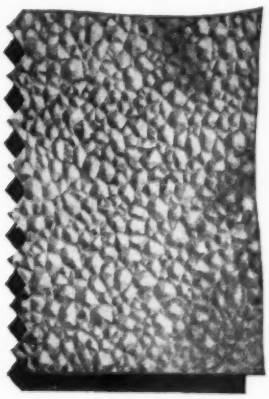
3-1452

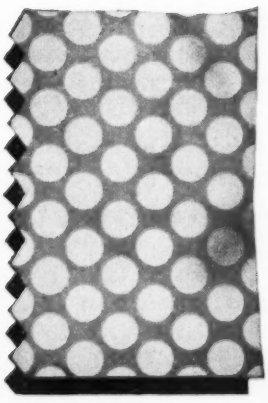
UNITED STATES STEEL











Embossed finishes... of all types... that stand up... after repeated washings...

Calendering and RHONITE R-1 just naturally go together—whether the desired effect be plain, chased, friction, Schreiner or deep embossed. And RHONITE R-1 gives you an important plus value, too—its wide range of calendered effects, from plain to moiré, outlasts repeated washings. It will pay you to get full details of this extra durable embossing resin, RHONITE R-1. Write us today.

RHONITE R-1 *is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

Brilliant decoration in suitings that won't fade away. Superb multi-tone shirtings that take to water like fish. Pajamas with eye-opening color and shut-eye softness.

None of this is visionary. All of it—and more—is profitable fact.

For Celaperm*, Celanese' color-sealed acetate yarn, means better vision in men's wear for every far-sighted mill, maker and merchant.

Celaperm's sparkling color can spark new styling in every end-use—from plains to iridescent solids, from striking surahs to the most varied and vivid stripes, checks, plaids. And *versatile* Celaperm combines with black and white yarns or cross-dyes in tri-color effects with equal facility. It blends its talents with *any* fiber, new or old.

Easy to work with, easier to sell, this exciting new yarn brings you every beautiful advantage of acetate—*plus the promotable promise of color-for-keeps. New* color that resists the sun, washes and dry cleans beautifully—*fashion* colors that perspiration won't mar, that don't gas fade.

Celanese has developed styling ideas to show you the wonderful possibilities of Celaperm . . . to help you create these new fabrics of today and tomorrow.

Have you seen what's being done with Celaperm? What Celaperm can do for you? Write Celanese Corporation of America, Dept. 14A, New York 16, N. Y.

*Reg. U. S. Pat. Off.

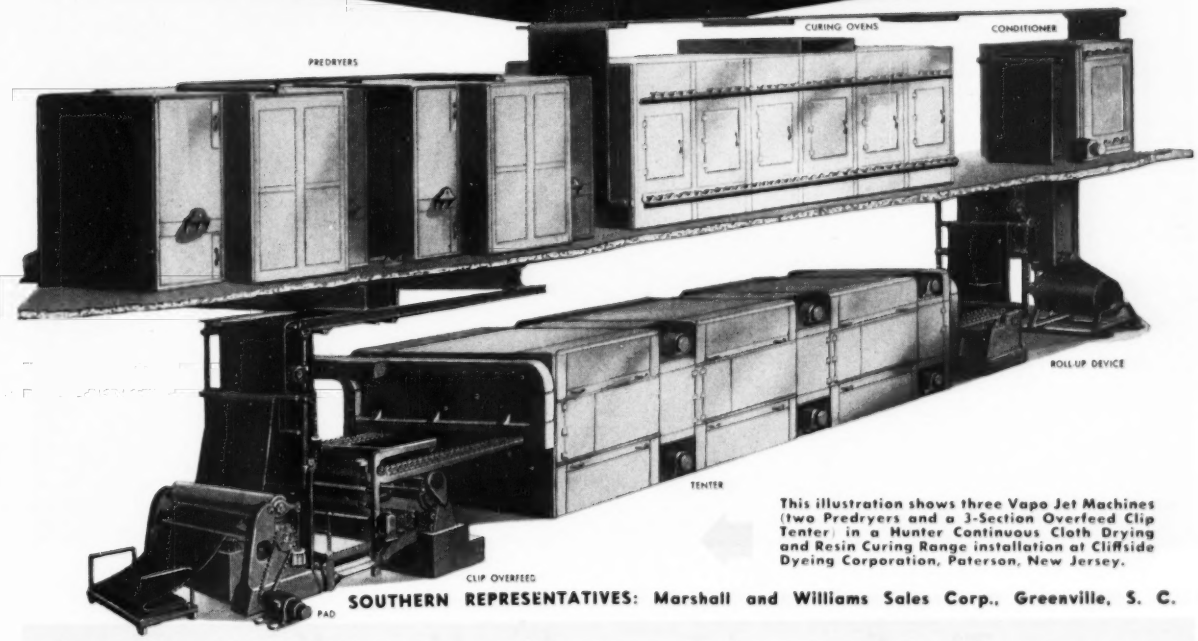
CELAPERM*

THE Celanese*

ACETATE YARN WITH THE "SEALED-IN" COLOR

NEW! EXCLUSIVE HUNTER VapoJet

FASTEST...MOST EFFICIENT DRYER EVER MADE!

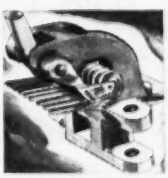


This illustration shows three Vapo Jet Machines (two Predryers and a 3-Section Overfeed Clip Tenter) in a Hunter Continuous Cloth Drying and Resin Curing Range installation at Cliffside Dyeing Corporation, Paterson, New Jersey.

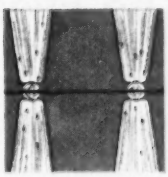
SOUTHERN REPRESENTATIVES: Marshall and Williams Sales Corp., Greenville, S. C.

Patented, superheated steam process boosts drying speeds to limits never thought possible

and does a better job!



PATENTED CLIPS ingeniously designed to overfeed as much as 20% on a wide variety of fabrics with gentle firmness and accuracy. Comb-type lower plates also permit uniform drying of the selvedges. The only clip which can be overfed.



SUPERHEATED STEAM vapor jets at a velocity of a mile a minute impinge on cloth simultaneously from above and below. Controlled fabric drying, at vaporization temperature, is most efficient method yet developed ... undesirable fabric overdrying is eliminated.

EXCLUSIVE PATENTED TELESCOPIC NOZZLES make it possible to direct the high velocity jets of vapor evenly over the cloth at exceedingly close range. These nozzles automatically adjust to changes in fabric widths.

TIME AND SPEED. The many special, patented design features of the Vapo Jet make it possible to obtain more efficient evaporation than can be accomplished through any other type of air drying system. This high evaporation capacity saves space, time and money.

BETTER FINISH. Processes all types of fabrics from the most delicate rayon crepes to heavy worsteds without any great or time-consuming adjustments. Controlled drying results in fabric finishes that meet the highest standards for both appearance and handle.

JAMES HUNTER

MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

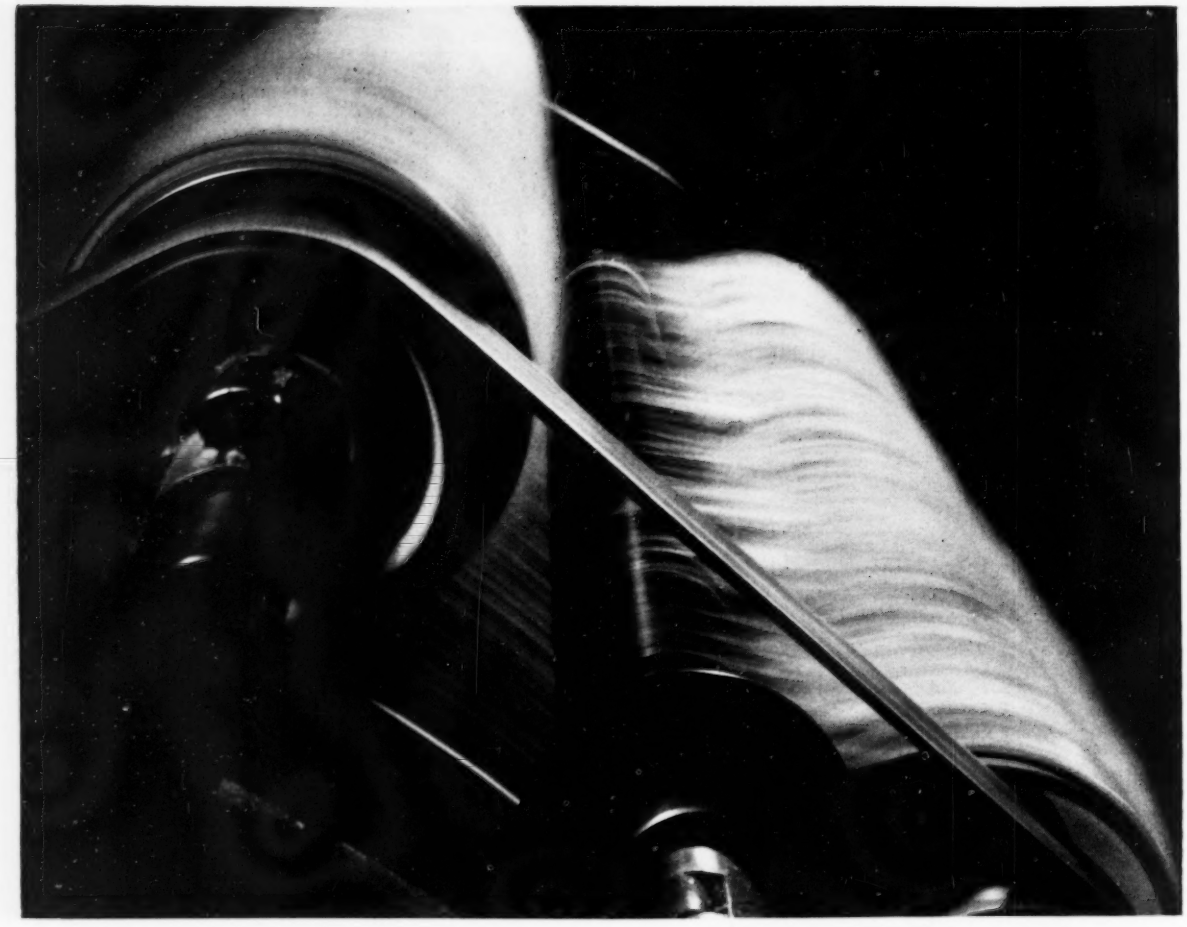
BUILT BY HUNTER ... IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

NO OTHER DRYER GIVES YOU ALL THESE MONEY-MAKING FEATURES!

- SUPERIOR ECONOMY
- GREATER CAPACITY
- LESS FLOOR SPACE
- SAFER DRYING
- BETTER FINISH
- CONTROLLED SHRINKAGE

DUNGLER SYSTEM



The Eyes of Taxes Are Upon You

PRESENT DAY TAXES and production costs, plus the competitive conditions existing in industry today, make production *economies,* or *increased* production, almost essential . . . Correct lubrication can play a major part in *both!* The *exactly-right* lubricant for each machine will effect production economies by reducing power consumption, machinery wear (and subsequent replacements), and maintenance costs . . . On the increased production side, correct lubricants can be of vital assistance in enabling machinery to operate faster and longer, and reducing "downtime" by extending the time between scheduled overhauls . . . Your Standard Oil representative is qualified, by training and long experience, to assist you in the selection of *correct* lubricants. He knows a lot more about lubricants than just the selling of them. Why not call him in?

Standard Oil Company
(KENTUCKY)

STANDARD OIL
LUBRICANTS

"IT DOES THE WORK OF THREE WEAVERS, BUT IT TAKES FOUR TO OPERATE IT".

SEYCO Products

WARP SIZING
- Softeners
- Binders
- Penetrants
- Ty-In Penetrants
- Shuttle Dressing

WET PROCESSING CHEMICALS AND AUXILIARIES
- Dye Assistants
- Penetrants
- Rewetting Agents
- Sanforized Fabric Oils
- Detergents
- Scouring Agents
- Softeners

NIAGARA TWIST-SETTER
- Yarn Conditioning Penetrants

In designing a new product, we at SEYCO never lose sight of our goal. What do you want? Weavability, hand, penetration, levelling, absorbency, detergency . . . . .?

One product won't do everything—efficiently.

Tell the SEYCO man what you want. A SEYCO product will do *your* job.

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SEYDEL-WOOLLEY & CO.

TEXTILE CHEMICALS

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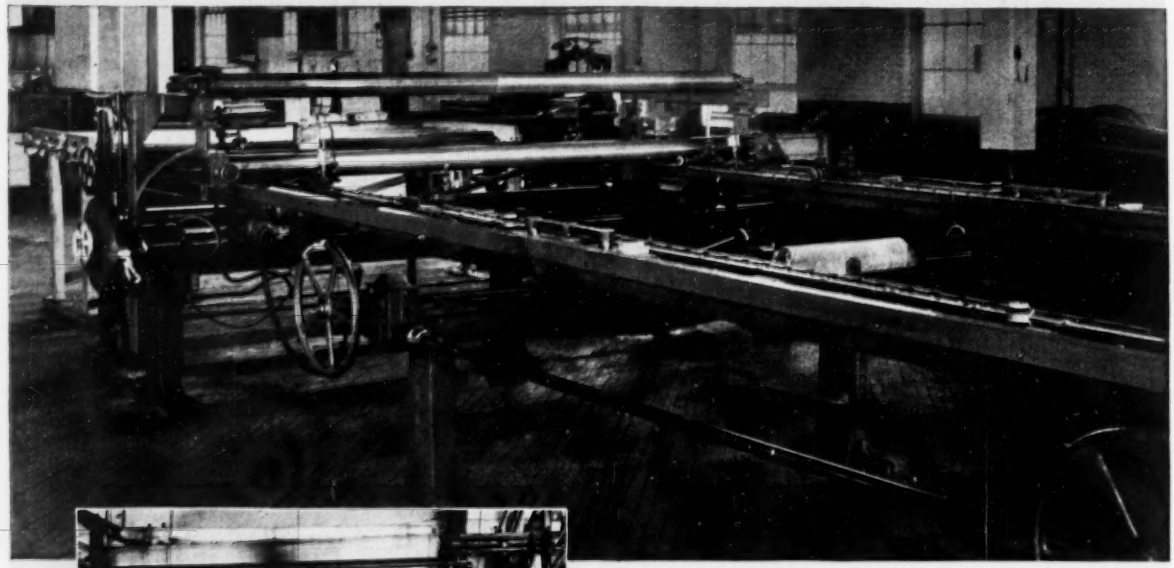
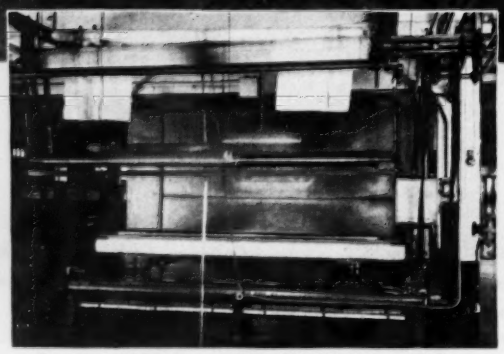
SEYCO

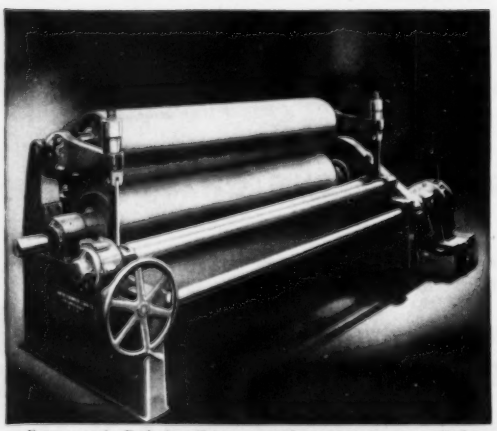
PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS • TWIST SETTER MACHINES •

New Tricot Finishing Tenter





Two views of Butterworth Tricot Finishing Tenter. Delivery end, just above, offers choice of folder or wind-up arrangement.



Butterworth Pad for Tricot provides precisely controlled fabric impregnation. For micro or air pressure.

For High Temperature Drying and Curing

The latest type Butterworth Finishing Tenter permits high temperature drying and curing of tricot fabrics in one operation. This new machine is so designed that it is free to expand longitudinally and laterally.

The long-wearing tenter chain—exclusive Butterworth pin link type — runs in a straight plane. You'll still be using the original chain when three old-fashioned over-and-under chains have worn out.

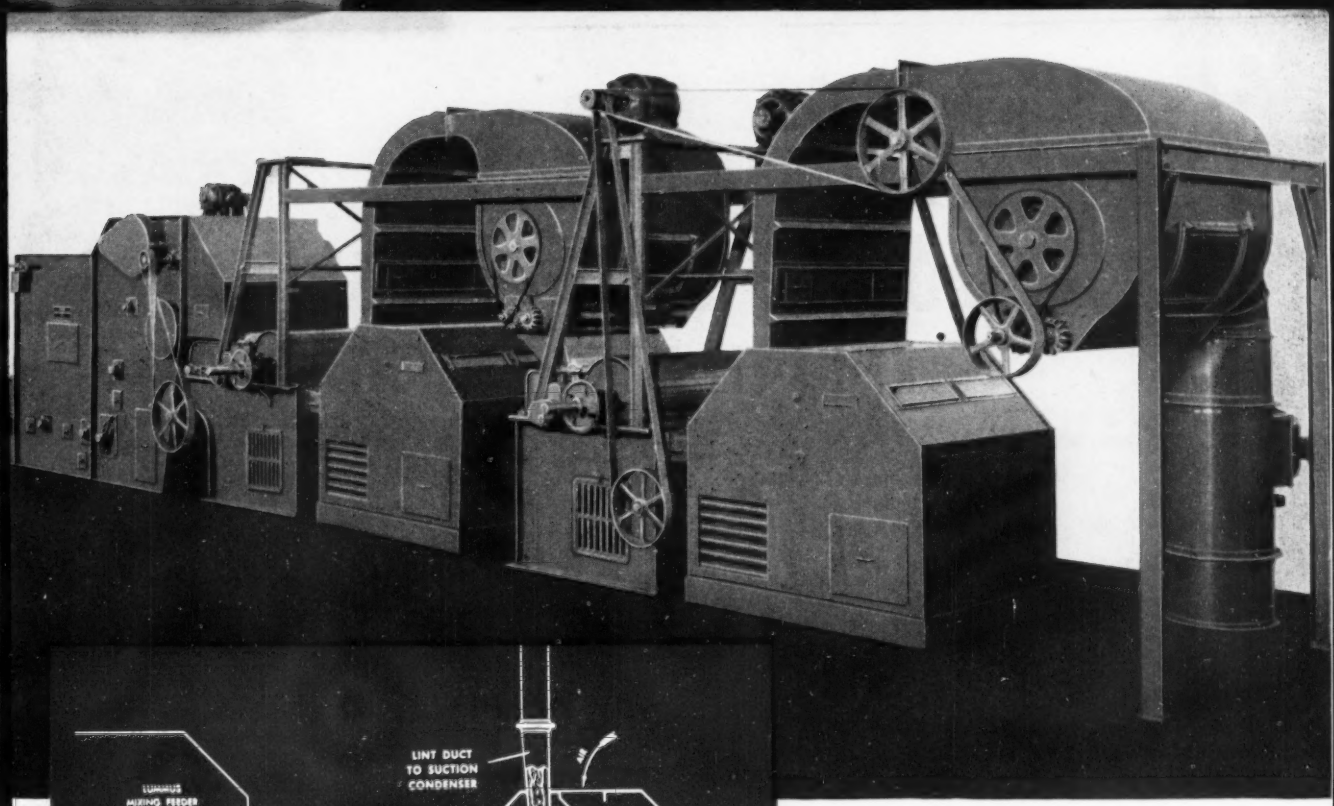
Drive or delivery end of machine equipped with spiral bevel gears. Vertical driving shafts mounted in tapered roller bearings. Main drive shaft mounted in ball bearings. Spiral bevel gear assembly enclosed in oil-tight casing and mounted on double cross rails supported by three heavy cast iron delivery stands. Anti-friction bearings throughout.

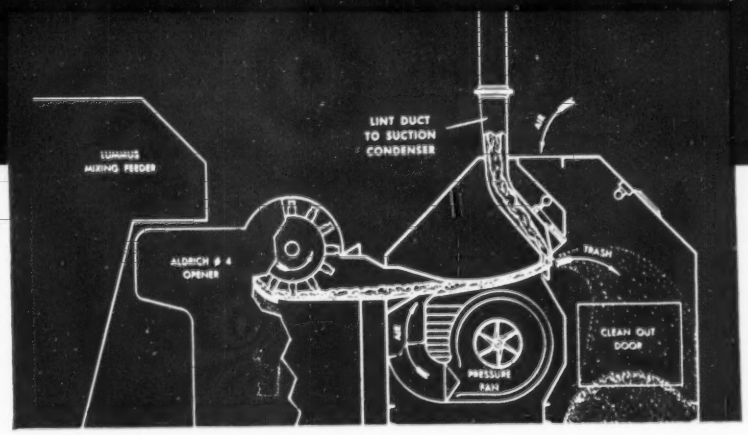
Built to conform with latest type drying and curing tenter housings of standard dryer manufacturers. If you want full details on this Butterworth Tricot Finishing Tenter, call for a Butterworth Representative today.

H. W. BUTTERWORTH & SONS CO.

Bethayres, Pa. — 187 Westminster Street, Providence, R. I.
1211 Johnston Building, Charlotte, N. C.
Representatives in Principal Cities of the World

BUTTERWORTH





Super-Jet takes out trash by air. No saws . . . only enough beating to open the cotton. No damage to fibre, or breaking up of trash. Lint delivered cleaned and thoroughly opened . . . with no curling, no stringing, no increase in nep-count.

WITHOUT LOSS OF SPINNABLE FIBRE TANDEM SUPER-JET MAKES COTTON CLEAN

Tandem Super-Jet cleaning system as shown here, not only does not take out good lint, but can be set to remove any desired type of trash. Super-Jet is now in operation in a long list of mills, whose cotton ranges from waste mix and good ordinary on up to strict middling. In these mills Super-Jet has proven itself as the first really new idea in lint cleaning in the last 75 years.

Super-Jet cannot damage fibre because it has no moving parts, and does its work with two air-currents. It eliminates the heavy cost in high-priced cotton of fibres damaged by cleaning, and good, spinnable lint thrown out with the motes.

Super-Jet takes out motes and neps; bark, shale, stems, grass and other loose trash without breaking them up into motey material or pepper trash. Used in Tandem with the opening equipment shown, the cleaning system turns out cotton ready for delivery direct to the pickers and so dust-free that you will notice that your card and spinning rooms are cleaner after installation of Tandem Super-Jet.

We have been given permission to invite you to visit mills with Super-Jet installations, running the same type of cotton you use...and will be glad to arrange such visits at your convenience.

ALDRICH-LUMMUS CLEANING SYSTEM

Made by

LUMMUS COTTON GIN CO.
Columbus, Ga.
and
ALDRICH MACHINE WORKS
Greenwood, S. C.

Sold and Installed by

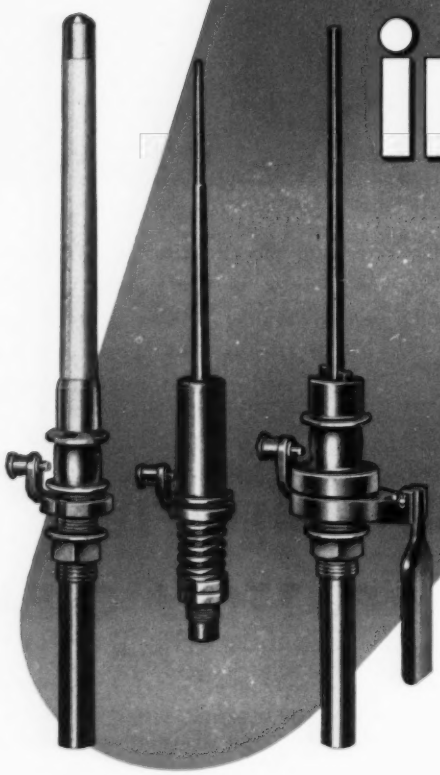
AldricH MachinE
Greenwood WorkS South Carolina

Marquette

ROLLER BEARING SPINDLES

with FULL-FLOATING FOOTSTEP BEARING

Millions in Use



Marquette Spindles offer you low initial cost, low maintenance cost and efficient operation at high speeds.

FOR ALL TEXTILES : COTTON • SYNTHETICS • WOOL • WORSTED

The Marquette METAL PRODUCTS COMPANY

CLEVELAND 10, OHIO • SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives: C. H. WHITE, 2300 ROSWELL AVE., CHARLOTTE, N. C.; WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA.
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Also Manufacturers of: HYDRAULIC GOVERNORS • PRECISION PARTS AND ASSEMBLIES • WINDSHIELD WIPERS FOR AIRCRAFT
FUEL OIL PUMPS • FUEL OIL INJECTORS • ROTARY HIGH PRESSURE OIL FIELD PUMPING MACHINERY

News in Brief

Integrated Machines. In many instances the textile mills feel that they save money if they buy certain portions of machines from the manufacturer and then buy various items such as motors and similar components from other vendors and assemble the unit in the mill. According to one textile machinery manufacturer, this policy would be fine if the arrangement could be worked out completely so that the machine would not suffer because of poor combinations or poor applications. It would work better if the original machinery manufacturer was not held ultimately responsible for the resulting operating deficiencies. If anything goes wrong with a piece of equipment, the manufacturer is duty-bound to investigate the trouble and to offer a solution. This is true whether or not the offending part was designed by the manufacturer or whether it was procured from another source, it was said.

Improvement of Taft-Hartley Act Held Unlikely This Year

The House Labor Committee is understood to have been ready for some weeks to report out a House bill which industry would welcome, according to a Washington correspondent. It would extend free speech provisions of the Taft-Hartley Act to cover representation cases and outlaw the doctrine of the captive audience, would permit states to regulate strikes and picketing, require elections before bargaining is ordered, and close loop holes in the secondary boycott provisions.

Yet the House report is said to have been intentionally held up until such time as the Senate should appear ready to act promptly. With organized labor, notably the CIO, now actively trying to prevent legislation and in fact lobbying quietly to keep the present law intact, no need is seen for exposing a "good" House bill to labor sharpshooters.

Whatever action the Senate might take, however, hinges on the personal situation of one man—Senator Taft, key member of the Senate Labor Committee and an original author of the law. In addition to the pressures he is working under as Senate majority leader, he has suffered from a hip pain which necessitates a series of physical check-ups in Washington and Cincinnati.

With Congress aiming for adjournment early in August and trying to complete action before then on such major measures as appropriations, excess profits tax extension, and renewal of the trade agreements act, chances for improving Taft-Hartley this year seem to have vanished.

To Attract Skilled Managers. Something besides money must be added to the compensation of business executives if industry's needs for skilled managers are to be filled in the future, according to the president of the Du Pont Company. The prestige of an executive career must be enhanced if it is to attract its share of available talent in the future. With high personal income taxes, the "money incentives so characteristic of business are declining in attractiveness, and alternatives in recognition and improved status must be offered."

Synthetics Hold Spotlight At Wool Meet. Synthetics received the lion's share of attention at the National Association of Wool Manufacturers' 88th annual meeting. Here's a sampler of topics of the day: Dr. Donald F. Holmes, Du Pont: "It is becoming clear . . . that the distinctive and useful types of fabrics produced by woolen and worsted mills can readily capitalize on the easy-living qualities available through the new fibers."

Robert E. Smith, Chemstrand Corp.: " . . . nor do I agree with meaningless signs on automobiles on Summer Street (center of the Boston Wool market) which state, 'Wool is best by every test.' "

Carl Setterstrom, Carbide & Carbon Chemicals Co.: "The important reason for cooperation between wool manufacturers and producers of new fibers is better fabrics which 'must be the chief concern and only major objective of any consideration of the place of new fibers in woolen and worsted yarns and fabrics.' "

John H. Karrh, Virginia-Carolina Chemical Corp.: "The dyeing of Vicara approaches that of wool more than any other man-made fiber, and so far we haven't found the blend of Vicara and wool we couldn't dye to the complete satisfaction of our customers."

Everett L. Kent, Kent Manufacturing Co.: "Technological advances and the development of man-made fibers are adding to our problems and broadening our opportunities. These developments have tended to obscure traditional lines separating the various seg-

Controlled Delivery

The fibrous nature of A. P. T. bobbins offers an ideal surface for yarn retention and delivery — while the rolled-in corrugations can be made to any desired depth and conformation, and of perfect smoothness.

American Paper Tube Co.

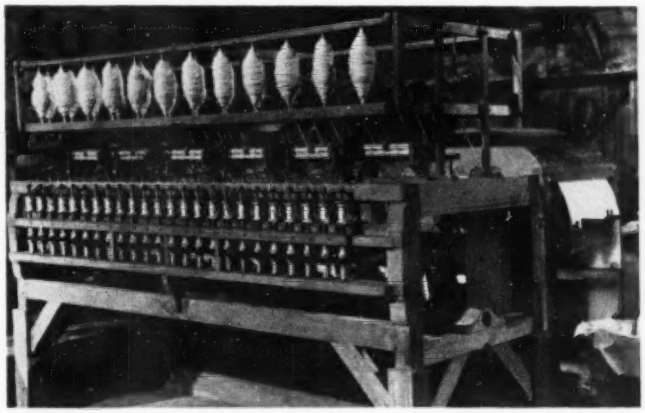
ESTABLISHED 1898
WOONSOCKET, R. I.
GREENVILLE S. C.

HUGH WILLIAMS & CO., TORONTO, CANADA

PROPERTIES OF A.P.T. ALL-PURPOSE BOBBINS

Incorporated in A.P.T. laminated-impregnated bobbins are all of the characteristics of: ideal yarn retention and delivery, crush-resistance, heat- and moisture-resistance needed for the varying requirements of HARD-TWIST NYLON, SOFT-TWIST YARNS, LOW-TWIST ACETATE, CONDITIONING TREATMENT

55 YEARS OF RESPONSIBILITY FOR EFFICIENT AND ECONOMICAL CARRIER SERVICE



Replica of Slater's Spinning Frame Spins Yarn on TV Show

This operating replica of the original spinning frame built in 1790 by Samuel Slater, father of the American cotton textile industry, was used to spin cotton in the television film, "Slater's Dream," shown May 13 on the Du Pont "Cavalcade of America" NBC-TV show featuring National Cotton Week.

The replica was constructed in seven days by Hollywood studio from drawings of Slater's original machine, now in Smithsonian Institution. Slater took nearly a year to complete his first 24-spindle frame, which started operation Dec. 20, 1790, driven by a water wheel in Pawtucket, R. I.

Electric motor drives the replica, the rear section of which was left incomplete for convenience in filming.

ments of the industry."

Japanese Competition in Norway. In Norway several textile mills have had to reduce their production and place their operatives on short time. The change is attributed to increasing Japanese competition, according to reports from Norway.

Japan Has Modern Machines. Today, Japan's spindles and looms are beyond question the newest and most modern of any major manufacturing country and geared to the highly economical production of cotton goods.—U. S. Dept of Agriculture.

Lightweight Synthetic Fire Hose. A new lightweight fire hose made with a synthetic fiber promises to make firefighting a safer, easier job for most firemen in the near future. Called "Highflex" and developed by the B. F. Goodrich Co., 100 feet of the new hose weighs about 20 pounds less than the same length of standard hose.

Army Procurement Rules Change. Inspection and acceptance provisions of the armed services procurement regulations have been revised and became effective May 15, according to the Defense Department.

Textile Executives Added. Textile mills in the U. S. have added more executives, percentagewise, since the last war than any other industry, according to a recent study. Also, fewer textile mill officials have been leaving their jobs since the war.

Work Stoppages. A new high for work stoppages was reached in 1952, according to figures from the Bureau of Labor Statistics. The 5117 strikes that began in 1952 involved some 3,540,000 operatives and caused 59,100,000 man-days of idleness.

News in Brief

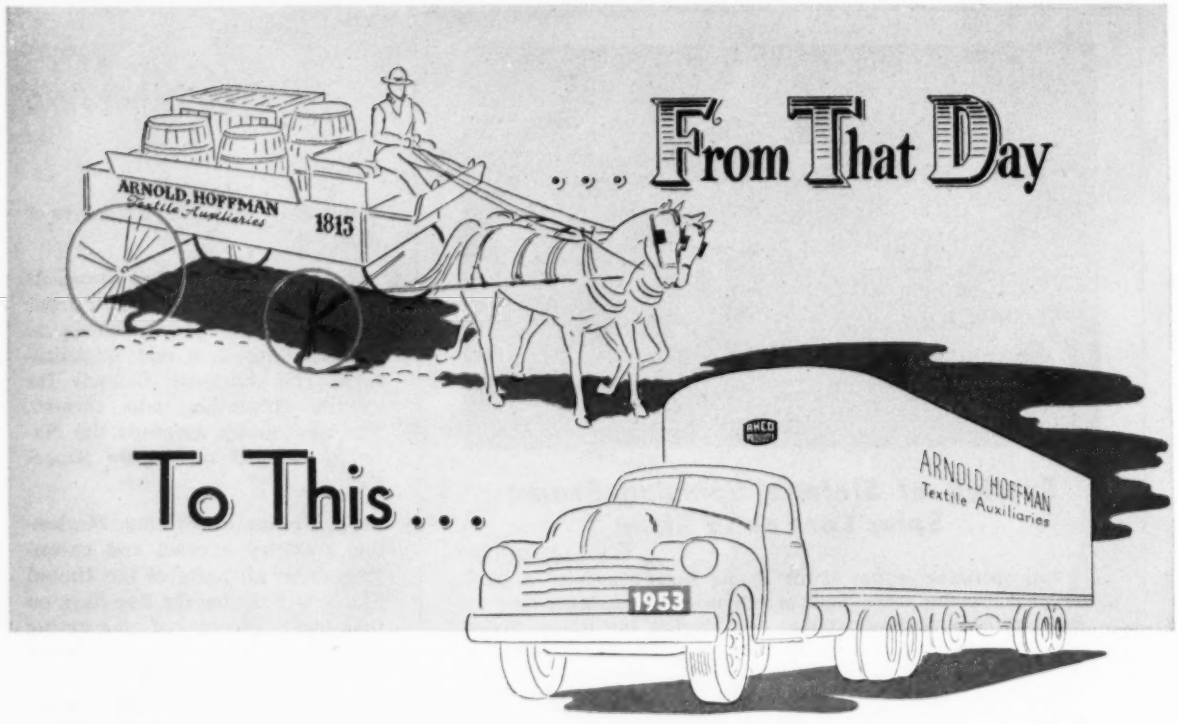
Textile Deans Change Name. At the meeting of textile school deans at Panama City Beach, Florida, on Sunday, May 3, a new organization, The National Council for Textile Education, was formed. The new group succeeds the National Council of Textile School Deans.

Conference on Pricing, Marketing. Industry counsel and executives from all parts of the United States will confer for five days on the legal aspects of marketing starting July 20 at the Hotel Statler, New York City. The program is presented by the Practising Law Institute of New York City as part of its twelfth annual summer session.

Cotton Sales Programs. In Paris, representatives of seven West European nations have established a permanent agency through which to assure frequent exchanges of information and discussion of plans among those who will be directly responsible for development of sales programs directed to their own domestic areas and export markets. The programs are in their infancy.

At British Industries Fair. Among the water-repellent cloths at the British Industries Fair was "Lentrac" made of nylon pile cloth for shower-proof garments. Having the softness of lambswool, and the appearance of ermine, it is the latest addition to the family of "Lentrac Sun-Rain" fabrics. Charles Macintosh and Company, Ltd., displayed some attractive rainwear for women, including a completely reversible zippered jacket of green satin lined with old gold, and an embroidered spotted grosgrain coat in inky-blue.

Manufacturers Control Stores? A suggestion has been made to the effect that manufacturers should



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Outstanding AHCO Textile Auxiliaries Include:	
PRODUCT	**DESCRIPTION**
AHCOVELS*	The complete quality line of substantive softeners. Excellent for improving the soil resistance of carpets.
AHCOWETS*	Synthetic wetting agents for every purpose.
AHCOFLEXES*	Softeners and wetting oils.
AHCOFIXES*	Fine fixatives for direct dyes.
CALSOLENE OIL HSA	Efficient wetting agent. Excellent stability in acids, alkalies and salts.
CONCENTALS	Special sulfonated tallow softeners for cotton and rayon.
AHCOBOND S*	Water soluble resin binder for backfill, warp sizing and finishing formulations.
LISSAPOLS	Superior detergents and wetting agents.

* Reg. Trademark

For 139 years Arnold, Hoffman have made and sold textile auxiliaries, and today they are still planning, working, searching for new and better products.

The combined facilities of AHCO's advanced laboratories and those of their I.C.I. associates guarantee that AHCO textile auxiliaries will continue to lead for the next 139 years!

AHCO PRODUCTS

ARNOLD, HOFFMAN

PROVIDENCE • RHODE ISLAND

Associated with Imperial Chemical Industries Ltd., London, England

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Specialized Products For Any Textile Application

permit each store to carry only one prominent line of carpet and that stores should be subjected to certain controls by manufacturers. Comments from the trade follow: "Who would catalog the various lines as to whether or not they were prominent? Doesn't every manufacturer thinks his line is prominent? Who would agree that this line is secondary? Who would authorize or control the situation so that a store handling one prominent line could not also get a second prominent line? Obviously, for legal, economic, and practical reasons such proposals are completely unrealistic, and could not be accepted by any trade."

Government Man Does Best Job. In several tests run recently whereby processing the same type of stock on the same equipment could be compared, government processing laboratories have done a better job than many mills. Although mill research men and competent technicians recognize the difference in operating on full production runs and in a small laboratory, the mill men themselves contend that if the operating supervisors and superintendents paid as much attention to small details, such as checking rolls, speeds, etc., or were as expert at their jobs as they think they are, they too could match laboratory results.

Convert and Reconvert. A large chain of mills which some years back rapidly converted from cotton to synthetics, is now just as rapidly converting from synthetics to cotton.

No Mending Needed? Promoted as "the stockings which need no mending," nylon stockings made from a moss crepe yarn are being sold well in France. Many wives are reported buying the stockings for their husbands.

Giver's Guide. A copy of "Giver's Guide to National Philanthropies" may be obtained without charge by writing to: National Information Bureau, Inc., 205 East 42nd St., New York 17, N. Y. This booklet includes a sample list of 60 accredited national organizations and a description of the Bureau's advisory service for contributors, individual and corporate.

Wear Life of Carpets. The technical committee of the Carpet Institute, Inc., has concluded that the wear life of a carpet fabric in actual use depends on so many variables that results obtained by the wear testing machines are meaningless with respect to showing the actual wear life of a carpet on the floor.

News in Brief

Cotton Market and Research. Inadequate research has been charged with the loss of the cotton tire cord market. According to one authority, cotton's loss of a passenger tire market amounting to 500,000 bales in 1952 can be attributed to the research that re-

Government Plans Business Service Agency

Closely in line with recommendations made by textile industry representatives for improvements in government services to textile manufacturers, the Department of Commerce intends to set up a streamlined organization tentatively called a Business Services Agency. The agency would consist of some 20 main industry divisions with key advisors recommended by various industries to represent them, and staffed for operation purposes by industrial experts from the government career service.

These plans were announced by Secretary of Commerce Weeks a few weeks following an interview which he granted to H. K. Hallett of Charlotte, N. C., president of the American Cotton Manufacturers Institute and vice-president of Kendall Mills; Harvey W. Moore, president of Brown Mfg. Co., Concord, N. C.; and members of the ACMI staff. The textile group outlined specific areas of activity, such as compiling and distributing information on domestic and foreign trade developments, presentation of industry views to members of Congress, etc., wherein the government could serve an industry like textiles more directly.

In announcing the forthcoming establishment of a Business Services Agency as a "peacetime successor" to the National Production Authority, Secretary Weeks said it would include these functions:

(1) Continue production directives and allocations for defense industries.

(2) Service some 20 major American industries with specific information.

(3) Secure cooperation of all industries in a mobilization base and post-attack program.

(4) Act as the authoritative voice of industry so that the Executive Branch and Congress may hear opinions of business and receive helpful information from business on legislative and administrative matters.

(5) Give private business an opportunity to effectively approve or disapprove of the implementation of government policy and plans from the standpoint of their practical workability in everyday industrial operation.

As was brought out in the textile men's conference with Secretary Weeks and in subsequent consultations with the Department of Commerce, establishment of such a service would not enlarge bureaucracy. Instead, it would consolidate several related current functions of the government into a more efficient unit, providing better balance and assuring maximum use of facilities currently available. In essence it would restore to the Commerce Department those functions for which it was originally created, but which were ignored for a number of years when business was being treated by Washington administrations as a "cast-off orphan."

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SINGLE HEAD SPOOLS

Another exclusive Sonoco development for packaging industrial threads. Constructed with a flush base which is tapered to permit smooth uniform tension to sewing machine. Available in a range of base diameters and barrel lengths with special surfaces. Colored lacquer tips can be ordered for identification.

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DEPENDABLE SOURCE OF SUPPLY

"I veto this appropriation because there is no warrant in the Constitution of the United States for taking the funds which are raised from taxes and giving them from one man to another, and I further veto it in order to teach the lesson that while the people support the government, the government does not support the people,"—Message of President Cleveland vetoing an appropriation of $25,000 to buy seed corn for drought-stricken farmers.

sulted in specially prepared synthetic tire cord which enables the rubber manufacturer to save money by using less fiber per tire. Cotton could have met this challenge if it had been supported by an adequate research program, the authority stated. It is incorrect to say that cotton has been priced out of the market. Cotton has been researched out of it, he concluded.

Dead Issue Nylons. Two hundred pairs of stolen nylon stockings were found by police in Turing, Italy, hidden in a coffin being carried in a hearse. Three men, disguised as undertakers, were arrested.

Touche'. The National Association of Wool Manufacturers have scored in their fight against subsidized Uruguayan wool tops shipped here. Treasury Secretary Humphrey has decided to impose countervailing duties on this import, a move which is expected to assist the U. S. wool combing-topmaking industry and domestic wool growers. The Uruguayan tops exporter has been able to pay the present U. S. duty (27¾ cents per pound and 6¼ per cent ad valorem) and undersell U. S. produced tops. To make this top, an amount of grease wool equal to Texas' annual clip is required—nearly half of the wool put under government loan so far. Studies are now being made of the Argentine situation wherein the tops exporter is subsidized as much as 20 per cent.

Old Looms in Germany. A director of a German firm recently stated that only 14% of German loom capacity could be classed as modern. The remaining 86% was installed before 1930.

Outerwear Insulation Material. A new outerwear insulation material called "3-D" Dynel is 43% warmer and 31% lighter than some other fibers. The material is made of fluffy non-woven Dynel fibers bonded together with a resilient special type of rubber latex.

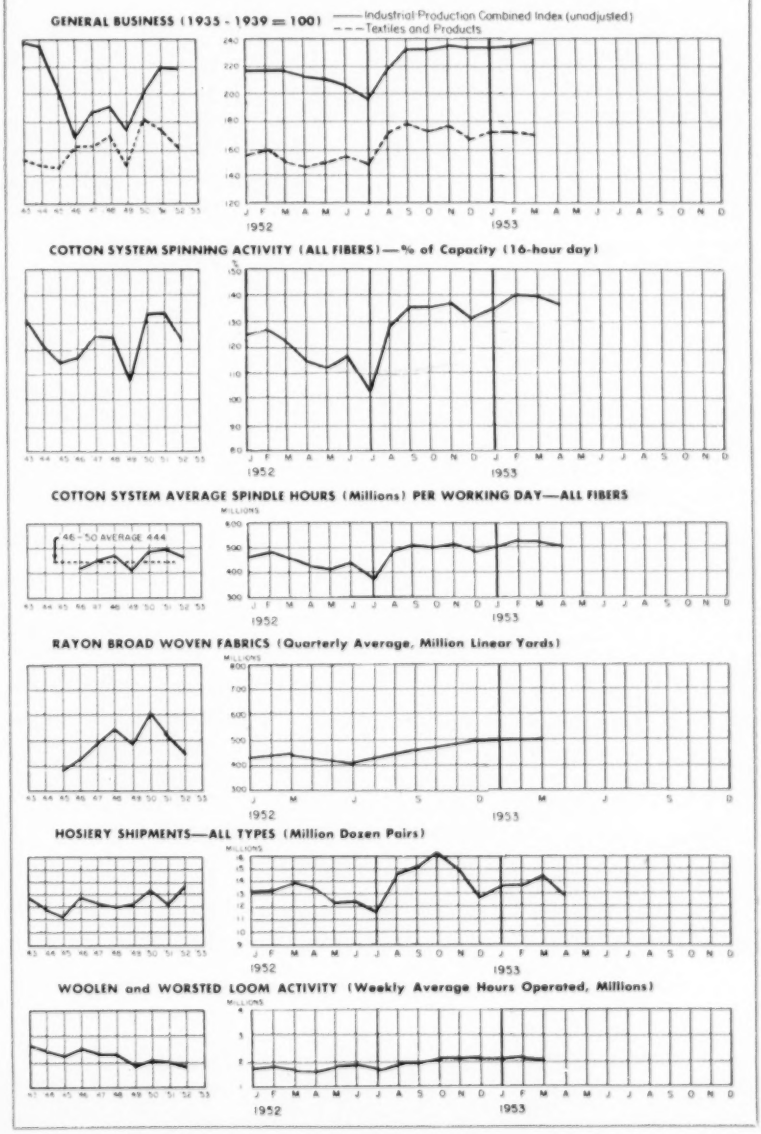
News in Brief

Foremen's Pay and Duties. A pilot study of foremen's salaries prepared by National Foremen's Institute, New London, Conn., reveals the differences in rank and

(Continued on page 185)

Textile Industry Activity Charts

Source of information: Bureau of the Census, U. S. Department of Commerce; National Association of Hosiery Manufacturers.



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Cleaner because they cling! Tycol Amortac oils are tailored for mill operations with a special additive to impart positive "non-drip" characteristics. They'll lubricate looms, also top rolls on spinning, drawing and roving frames... with no "throw off", no staining of finished threads! The Amortac series is just tacky enough to penetrate and cling to bearings – without splash – at peak roll speeds. With an added bonus: they'll minimize corrosion even in the most humid atmosphere! Request full information from your local Tide Water Associated office – today!

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AN EXECUTIVE *Views*

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry

SOME of the testimony of the foreign trade "experts" who have testified during the last several weeks before the various committees of Congress indicates that the idea is still rampant that the tariff policies of the United States lie at the base of all the world's ills—of economic, sociological, and political types.

Starting from this mental jumping-off place, some of these experts have testified to the effect that it then becomes obvious that the way to correct these ills is to change the American tariff policy. The "Trade-Not-Aid" slogan which we hear so much these days is an outgrowth of that thinking.

To your correspondent's way of thinking, the basic premise is fallacious. It is our understanding that the American market is the easiest one in the world to enter and that the rate at which we are buying foreign goods has increased much more rapidly than the rate at which we have been selling goods to foreign nations. We are now buying foreign goods at a rate of approximately eleven billion dollars a year, and with this staggering sum of purchases, it seems rather ridiculous to blame the world's ills upon our "hiding behind tariff walls."

Textiles and Foreign Trade

Of all the industries in the country, the American textile industry probably has the largest stake in the foreign trade question. The heavy industries such as automobiles, electrical machinery, etc., are protected by patents, trade marks, assembly-line production, and the enormous amount of capital that is necessary before going into business.

Textiles, on the other hand, are spun and woven about the same way in every part of the world, and just about every country in the world has some sort of textile industry. Anybody who can scrape together a spinning wheel and a hand loom can set them up in a shack and—presto!—he is in the textile business.

Another factor which makes the foreign trade question of such importance to the textile industry is that such a large proportion of our cost-dollar is represented by wage rates and raw materials. Since our textile wages are the highest in the world, and since our principal raw material, cotton, is virtually fixed in price because of government requirements, these two items place us in a rather peculiar situation. For example, we recently saw figures which indicated that average hourly earnings in the Japanese textile industry ranged from about 8¢ to about 10¢. This compares with average hourly earnings in this country of about $1.28.

We, Too, Want to Sell

The shoe, of course, must fit both feet. Not only do India, Japan, and other countries of the world want to sell textiles, but we, too, want to sell them. If tears are going to be shed over the fact that Calcutta mills cannot find a ready foreign market for their goods, then we would like to see a few tears shed over the fact that American mills are having increasing difficulty in finding foreign markets for *their* products.

In the early months of 1952 American exports of cotton goods were running at the rate of approximately 804 million square yards per year. In the early months of 1953, however, this dropped to approximately 636 million square yards per year.

This columnist has always had the sneaking suspicion that the American State Department was more interested in the plights of other countries than it was in America's difficulties. There is a continual roar of propaganda about the necessity for these foreign countries selling their goods to America, but very little is heard about the necessity for America selling goods abroad.

We do not claim to be an expert on foreign trade, and, certainly, we know very little about the Reciprocal Trade Agreements Act. However, from what we have been able to discover, there has been very little that was "reciprocal" about America's foreign trade policy. In our opinion, our diplomats have swapped a 1953 Cadillac for a second-hand Model-T Ford, and have then come back home bragging about what a splendid thing they have done for America.

As far as we know, the trade treaties which we have negotiated over the past twenty years have not yielded a single concession to American textile exporters. Instead, one market after another has been closed to us through subterfuges such as manipulation of exchange rates on currencies, im-

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and greatest
economy

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for removal of starch sizes

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for removal of protein sizes

for de-sizing

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port quotas, embargoes, etc.

And Now—Japan

Some of the readers of this magazine may remember that in 1937 the Japanese sent into the American textile market more than 100 million square yards of cotton goods. As a matter of fact, U. S. Department of Commerce figures for that year show that in the one month of April 1937 we imported nearly 19 million square yards of cotton goods from Japan, and a comparison with earlier years shows that this was more goods than we imported from Japan for the *nine-year* period 1926 to 1934.

It has been a long time since 1937, however. It has not been quite so long since Pearl Harbor and Bataan. Nevertheless, in spite of these memories, we still hear talk about helping the Japanese textile industry get back on its feet by purchasing its goods and leaving American operatives to root for the scraps.

Prior to the outbreak of the war in the Pacific, Japan had 12,278,000 spindles. That was in 1939. When the last American bomber dropped the last bomb on the Islands, there were not many of these spindles left. The recuperative powers of the Japanese industry were rather marvelous, however, and by the early spring of 1953 they had in place 7,466,000 spindles, with perhaps a million and one-half more operating on synthetics.

Japan and New England

One very significant phase of this entire matter is the fact that in years gone by Japan's principal threat has been to the southern textile industry, because mills in the South were predominantly on the coarser fabrics. Now, however, there is considerable indication that Japan is turning more and more to fine goods production. If this proves to be a substantial trend, then it will mean more headaches for New England mills. One of the New York agents told us recently that Japanese-made 136x60's are being seen in the New York market, as well as Japanese lenos.

If the Japanese decide to try to take a portion of the American fine goods market, then it is entirely possible that they will be able to do so. Certainly, they can make the goods much cheaper than can New England mills, and we doubt seriously that the American tariff would be high enough to keep these goods out. This would, indeed, be a severe blow to a New England textile industry which has already been beset by numerous problems and vicissitudes.

The most recent figures available on Japanese cloth exports are for the month of April 1953, and they are indicative of the fact that whether competition from Japan and the other low-wage countries of the world is a threat to New England or to southern mills is not of too much importance in the national picture. These exports are definitely a threat to the American textile industry and they may become even more of a threat in the months and years to come.

The April figures indicate in that month the Japanese exported 65,185,000 square yards. Compare this, if you will, with what we had to say above about Japanese exports and spindleage before and after World War II, and you will see the Damocles sword which hangs over our industry. In March of this year the Japanese textile industry produced 216,000,000 square yards, which was the highest production in more than a year.

(Continued on page 187)

July 13-17—Gordon Research Conference on Textiles, sponsored by American Association for the Advancement of Science, Colby Junior College, New London, N. H.

July 27-31—International Exposition of Fabrics, Fibers, Finishes, and Yarns, Waldorf Astoria Hotel, New York City.

Sept. 10-11—Fall meeting, The Fiber Society, Lowell, Mass.

Sept. 17-19—Annual national convention, American Association of Textile Chemists and Colorists, Conrad Hilton Hotel, Chicago, Ill.

Oct. 1-2—Annual convention, Quartermaster Association, Lord Baltimore Hotel, Baltimore, Md.

Oct. 12-14—Annual forum, Packaging Institute, Hotel Statler, New York, N. Y.

Oct. 14-22—"Textile Recorder" International Exhibition of Textile Machinery and Accessories, Belle Vue, Manchester, England.

Oct. 15-16—47th annual meeting North Carolina Textile Manufacturers' Association, Carolina Hotel, Pinehurst, N. C.

Nov. 12-13—Annual meeting, Textile Research Institute, Commodore Hotel, New York, N. Y.

1954

Feb. 4-6—Technical meeting, Textile Div., American Society for Quality Control, School of Textiles, N. C. State College, Raleigh, N. C.

Feb. 25-27—Annual convention, Phi Psi national honorary textile fraternity, Carolina Hotel, Pinehurst, N. C.

Mar. 18-20—Annual meeting, Alabama Cotton Manufacturers Association, Hotel Buena Vista, Biloxi, Miss.

April 22-24—Annual convention, American Cotton Manufacturers Institute, Jung Hotel, New Orleans, La.

April 26-30—American Textile Machinery Exhibition (sponsored by American Textile Machinery Association), Atlantic City (N. J.) Auditorium.

Oct. 4-9—18th Southern Textile Exposition, Textile Hall, Greenville, S. C.

Supreme's "Family Resemblance" simplifies profit knitting

LT/SAAF Regular and Long Loop Terry Stripes
LRP "Veni-Knit" mesh fabrics
SR Plain and Swiss Rib
SA/AF Variable Striped and Patterned Jersey
ROF Jacquard-Type Floatless Patterns
MJ Wide and Body Size Jersey
ML Pile, Loop Terry and Plush
IC Fleece Coatings

The knitter-mechanic who knows one Supreme model finds it easy to get acquainted with the rest of the "family"

A basic similarity of construction and operation makes it simpler for him to get maximum production from every Supreme. It means quicker set-up, easier maintenance, less down-time. Net result . . . lower production costs and higher profit.

Supreme's uniformity of design makes possible the interchangeability of many parts. This is some of the secret behind Supreme's convertibility feature which enables several models to switch from one kind of fabric production to another.

Another aspect of Supreme's "family resemblance" is the technical assistance that goes along with every Supreme to help make them a family of "profit-knitters" for you.

Ask for complete free information on any of the Supremes shown here.

Some Of The Mill Proven Features You'll Find In Every Supreme—

Stationary Yarn Stand • Smooth, Acting Revolving Cylinder and Dial • Maximum Precision Feeds • Patented Multi-Disc Clutch • Revolving, Floating Take-Up • Rugged Tripod Construction • Rugged, Smooth-running Silent Chain Drive.

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SX-167

NEW Equipment AND MATERIALS

Loom Drive Gives Maximum Tension, Keeps Grease from Clutch

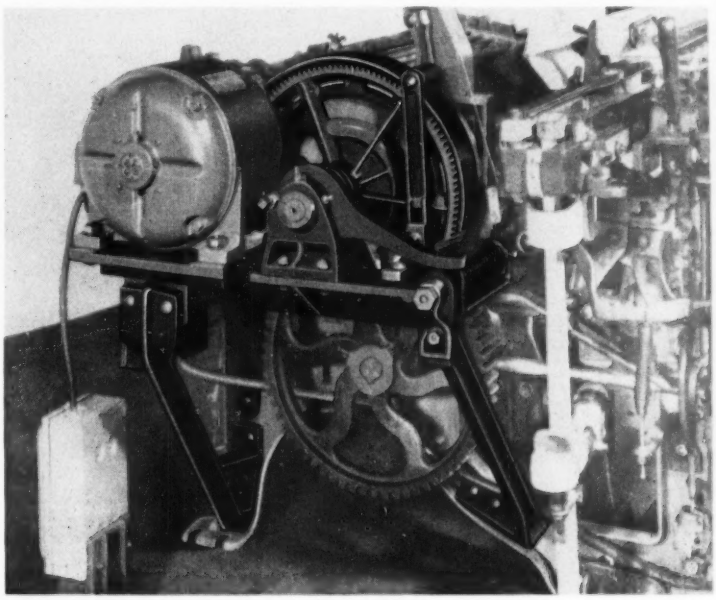
A new motor drive for E, K, and modified D-model looms gives maximum pulling power with minimum tension and positively keeps grease from the clutch. Known as the Bahan Model D-1, it is practically trouble-free.

By a special method of grease lubrication and control, grease always travels to the proper points; individual grease channels prevent grease by-passing of bearing point.

The general problem of slippage is eliminated by sealing grease from the clutch; thus the required tension is decreased. This in turn increases bearing life and decreases the amount of adjustment necessary to maintain efficient operation.

Bahan Textile Machinery Co., P. O. Box 2325, Greenville, S. C.

For additional data, request item G-302, using Handy Return Card on page 184.



Pressure-Type Dye, Bleach, Boil-Off Machines for Tricot, Marquisettes

Two dyeing machines, one for handling marquisettes and the other for tricot fabric, are engineered to boil-off, bleach, and dye open-mesh goods by package dyeing principles but on a much larger scale.

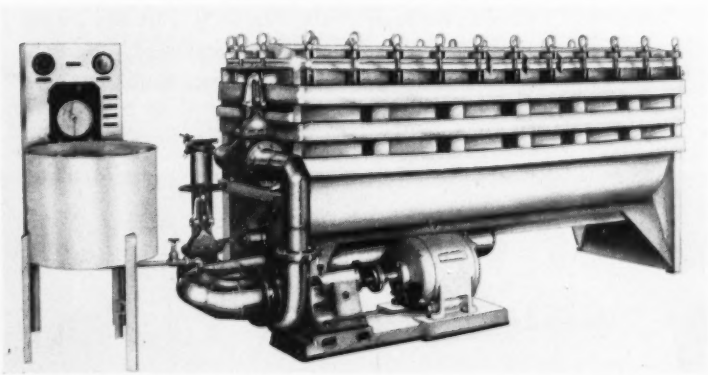
The marquisette machine handles up to 6,000 yd of 60-in. goods, depending on the cloth construction. It has a 1,000 gpm pump equipped with a four-way valve for reversal of flow. Flexopulse timers are used in conjunction with temperature controllers. Designed for operation up to 240 F, the closed-type machine is built of Type 304 stainless steel, or Type 316 if desired. Helicoid gauges are used.

The tricot machine is similar to the marquisette machine in appearance, but is built to handle even wider goods.

Both machines may be had without the pressure-dyeing features. Atmospheric pressure machines have continuous one-way flow.

Sampling and dye additions are taken care of on the pressure-type machines by a vertical 3-gallon cylinder built into the system between the pump discharge and the return line. Samples are attached to a wire screen

Burlington tricot dye, bleach, and boil-off machine.



assures you automatic blending within 1% accuracy . . .

If you are blending two or more fibers, you owe it to yourself to investigate the possibilities of a Proctor system designed and arranged to suit your individual mill requirements.

Why? Because Proctor engineers *know* that yarn uniformity starts with your blend . . . they know, too, how to arrange a system to accomplish your blending automatically within 1% accuracy.

There are Proctor systems in operation handling anywhere from a few pounds up to many hundred pounds per hour. In each installation fibers are being mixed thoroughly, accurately and automatically. In many mills variance in the blend is being held to less than 1%. This means that the last yarn made from the blend is exactly the same as the first.

Thousands and thousands of pounds of stock are passing through Proctor systems every day—with accuracy being reflected in improved yarn uniformity. When can we discuss your requirements?

Much Proctor drying equipment and textile machinery is covered in full or in part by patents and patents pending.

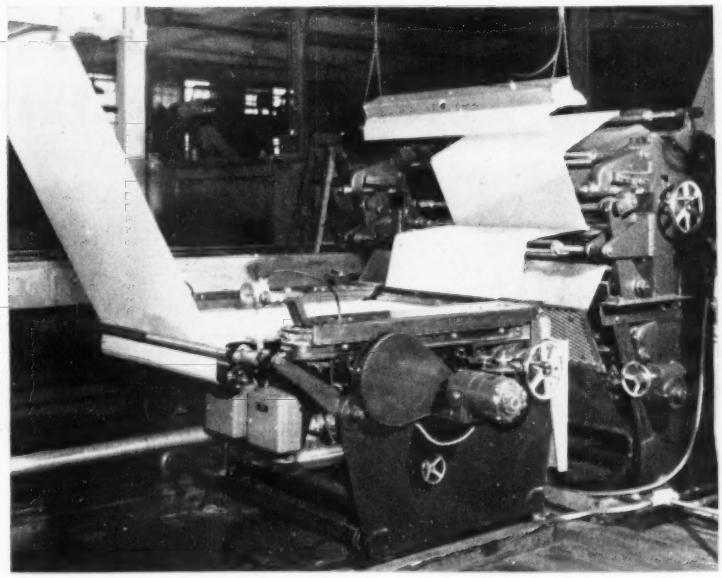
PROCTOR & SCHWARTZ, INC.
610 TABOR ROAD PHILADELPHIA 20, PA.

in the top portion of the cylinder. When it is necessary to take a sample, the cylinder is isolated by closing off two valves, the lid is removed, samples are lifted out, and any necessary add is made. The samples are then replaced on their bracket (above the level of the added dyestuff) and the top replaced. The sample kier is then opened into the system again.

The sampling and adding operation can be done without stopping the pump or reducing the temperature inside the unit.

Burlington Engineering Co., Inc., Graham, N. C.

For additional data, request item G-117, using Handy Return Card on page 184.



Compressive shrinkage machine utilizes rubber belt (Cluett, Peabody).

Speeds Up to 100 ypm with Rubber Belt Compressive Shrinkage Machine

A new high-speed, rubber belt compressive shrinkage machine makes it possible to turn out a wide range of "Sanforized" cotton fabrics with a consistently smooth finish on both sides.

Fabrics processed on the new machine will carry the "Sanforized" trademark as long as they conform to Cluett, Peabody's requirement that residual shrinkage after processing shall not exceed one per cent. Developed by Cluett, Peabody engineers and covered by patents and patents pending, the machines will be built by licensed machinery manufacturers in this and foreign countries.

A complete range of controlled shrinking equipment, including dampening and width control, is incorporated in the machine. To obtain the necessary degree of shrinkage, it is necessary only to make the usual wash tests for determining the potential shrinkage. Once this is established, the operator can set the machine for the amount of shrinkage required to meet the standards for use of the "Sanforized" label.

Production speeds up to 100 yards a minute have been obtained when operating the machine on large lots. The yardage life of the rubber belt promises to be upwards of four million yards. The rubber belt must be ground approximately every half-million yards to maintain the completely smooth surface that gives an equally smooth finish to the side of the fabric that comes in contact with it. For this grinding, a special grinder roll is supplied with the machine. Other than this grinding, which is done without removing the belt, the belt never needs to be changed, no matter the degree of shrinkage to be obtained, and therefore remains an integral part of the machine until it wears out.

In the design of the rubber belt machine, the compressibility of the thick solid rubber belt and the pressure it exerts when compressed, are taken advantage of to assure perfect contact between the belt and the fabric, and between the fabric and a steam-heated metal drum, without the necessity of heated metal shoes. The belt, carrying the fabric, is squeezed as it moves between a pressure roll and the metal drum. It is the resulting pressure that provides the perfect contact between the belt and the under surface of the fabric, and between the upper surface of the fabric and the smooth metal drum.

Dampening and heat are employed to make the yarns pliable. On the rubber belt machine, after the rubber belt is squeezed between the pressure roll and the metal drum, the following recoil of the belt compresses lengthwise the damp, warm fabric in contact with it and compressively preshrinks it to whatever degree is necessary to make certain that residual shrinkage will not exceed one per cent.

Cluett, Peabody & Co., Sanforized Div., 10 East 40th St., New York, N. Y.

For additional data, request item G-124, using Handy Return Card on page 184.

National hand dryer.

Automatic Hand Dryer Improves Employee Relations

An automatic hand dryer for textile mill washrooms does not only eliminate necessity for providing paper or cloth towels; it prevents the area from becoming cluttered with

(Continued on page 197)

NATURAL STRENGTH . . . The strength of Textile Spring-Beard Needles is the natural result of quality control. A special steel formula, superior tempering, rigid scientific and electronic controls assure the strength combined with flexibility required in today's high-speed knitting operations.

Strength is another reason for using Textile Spring-Beard Needles. Try them . . . see the more even stitches and better fabrics you get . . . at lower production costs.

TEXTILE MACHINE WORKS, READING, PENNA.

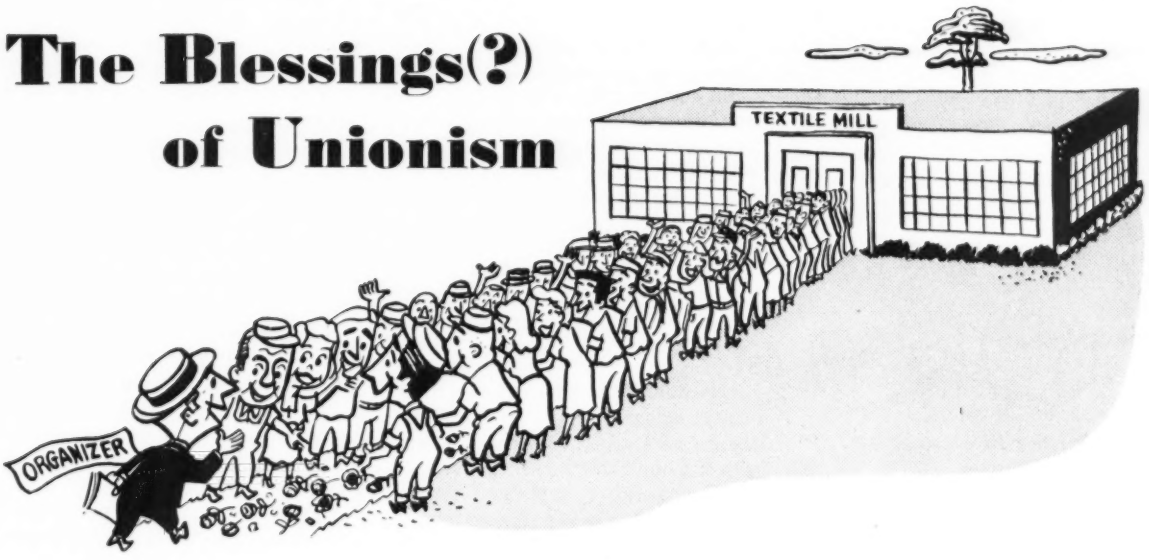
Textile

SPRING-BEARD NEEDLES

For Full-Fashioned Knitting
For Tricot Knitting

ARROW Latch Needles

The Blessings(?) of Unionism



By a Mill Executive

EXCLUSIVE

IN THE March issue of "Textile Industries," the lead article by a mill executive was "So You Don't Want a Union?" It was a direct condemnation of some of the practices by mill executives and supervisors—the practices and policies that give the union organizer a foothold in the plant.

This article, by the same executive, presents the other side of the story—why unions are not successful.

The article in March was in such demand that extra copies had to be made. Reprints of this discussion and the previous one are available in limited numbers.—Eds.

EVER since I can remember, I have heard people say, "A good Union is a good thing. It can be a great help to operatives in many ways." In most instances, the people I have heard this sort of talk from were people who had never had any experience with a Union.

After several years experience with a textile Union, I find myself answering a statement of this kind with the question, "Can you point out a good Union to me that I might go look at?" Thus far, no one has, and I have yet to see a good Union.

Blessings of Unionism. I was interested sometime ago in the gentleman's, in Augusta, Georgia, reply to a Union official who offered to bring the blessings of Unionism to Augusta. His reply cited some of the strife, misery, and actual bloodshed resulting in places where this Union had been and ended up telling him to take his *blessings* elsewhere.

You might be interested in my impression from actual experience of what it is like to have a Union in your mill. Strangely enough, my first thoughts are not about the effect on management and supervisors, but concern the effect on employees. During the organizing period, prior to the election, the organizers paint glowing pictures of benefits that will be derived and of the happiness that each person will experience being in the Union.

Happy Union Members. I have never seen this materialize; in fact, it is my considered belief that most members of the Union are, to understate the matter, unhappy. I believe you could set me down in a mill where I didn't know a soul and I, without speaking to a single person, could tell you if it was Union or Non-Union.

How?

The people under the dominance of a Union look unhappy. Still worse, they look distrustful—and way down in them you can sense a feeling of fear. If you can get to know these people well enough for them to talk frankly to you, for every one that will tell you that he likes being a member of the Union, four or five will tell you that he or she doesn't like it, in fact, are members because they are afraid not to be.

Those Who Like Unions. Who are the people that like the Union? They are the people that helped

organize the Union in the first place. They are the officers, shop stewards; the ones that go to the meetings on Sunday. This group usually is made up of individuals who have become disgruntled at some real or fancied happening in the past; people with ambition be-

" . . . they look distrustful . . . "

yond their ability who would like to be supervisors but have never made the grade; and people who are lazy or slow and think that the fact they can't run a job too well will not penalize them as long as they are members.

In addition to these groups are a few misguided souls who, either through training at home or hanging around with Union-minded people, have become members. Such people as these comprise the faithful few who occasionally get handouts in the way of a trip off to some meeting paid for out of the Union treasury or some small assignment to duties for the Union for which he gets paid. These individuals usually become staunch supporters of the Union because of these favors and in the hope of future favors.

Attendance at Meetings. The fact that Union officials constantly fuss about the poor attendance of members at their meetings is proof that the majority of members are not interested in their Union. The average attendance runs less than 10%, and they have to offer prizes of different sorts to keep it this high. Doubtless, some reason for this poor attendance is attributable to the same thing that keeps people from exercising their right to vote in an election.

I have noticed when the Union holds a meeting and votes some special assessment, that the people fuss about this money being taken out of their pay checks. When you ask them why they don't go to the meeting and vote on these things themselves, one often repeated answer is that they have been there and got disgusted or insulted and don't intend to go back.

Others object to the way votes are taken in the Union hall, particularly on important things like a strike vote—where, instead of a secret ballot, the usual practice is to have a standing vote. They say that is when some of the insults occur when one is foolish enough to vote contrary to the president's or business agent's orders.

Members Distrust Each Other. Getting back to why people are not happy as Union members, it is difficult to boil this down to a simple reason because different people seem to dislike it for different reasons. There is a feeling of distrust which must be similar to that found in communist countries where no one trusts another—not even members of the same family. One thing you learn as a boss in a Union mill is not to ever stop and talk to any one person too long or too often, for if you do he or she becomes a marked person and may be accused of telling you something

Always a threat to non-members.

that you learned from an entirely different source.

I have seen mothers refuse to visit or speak to children, husbands and wives actually separate, and members of the same church not even speak to each other in church. I have been told by new employees who were leaving soon after becoming employees that the reason for leaving was that they just didn't like being in a place where everybody distrusted everybody and nobody seemed to want to be friendly.

Some people say they don't like being lied to by the Union and point out that each time a new contract comes up people who are not members are told that the new contract is going to have a closed shop and that the non-members will be fired or will be charged fifty or one hundred dollars initiation fee. Then when the new contract comes out with no closed shop provision, they feel like they have been made suckers.

Stupidity of Strikers. Some people point to the stupidity of Union leaders in calling strikes. Recently they have talked a lot about the strike that occurred two years ago which cost them several weeks of lost work and was called off without their getting one single, solitary thing to make up for their loss.

Some people object to being threatened about staying out on strike or about becoming a member of the Union. Some people dislike the favoritism shown by the Union officials. They say that if the shop steward likes you, you can get him to act for you, but if he happens not to like you or if you have been foolish enough to say what you think at the wrong time, he can make it hard on you.

Some people say that they get tired of forever and eternally hearing the Union calling the Company crooked and saying everything that is bad about the officials. A great number of people say that life is too short to live constantly under the threat of strikes that worry them to where they can't enjoy what they have got and are constantly afraid to go ahead with future plans because they never know when the talk will become a strike.

Interest of the Boss. Two things I have said may seem hard to believe. One is that the Boss is more concerned about the effect of a Union on the employees than the effect on himself. From my experience, I can tell you this is true. It may not be so evident at first, but as the employees become progressively more discontented the Boss and the business suffer. From a

purely business point of view, the Boss's job is to keep morale high if the plant is to maintain efficiency and quality to be competitive. I would be laboring the point to say more than discontent does not contribute to employee morale.

From a personal knowledge, there are few, if any, Bosses who do not form a friendly interest in the employees and their families. To see these friends unhappy, to see them suffer during a strike is, to say the least, most unpleasant for the Boss. And don't forget, the Boss lives and works with these employees and stays on while Union officials come in, stir up trouble, and go on to the next place.

The other thing I have said is that employees get tired of hearing the Company and the Bosses forever being called crooked and everything bad. Right here let me say that I realize that all Bosses are not good ones; also, that Bosses as a class are not necessarily loved by employees.

For one thing, if he is a competent Boss he has to do things such as demand a day's work from people, discipline people, and other duties that are not conducive to winning in a popularity contest. However, the majority of the Bosses that I know are highly trained men. In this modern age, they are taught methods that are a far cry from the old days. Today's average Boss might still not win any popularity contests but he can so do his job that people will consider him fair and helpful.

Negative Atmosphere. Getting back to the Union criticizing the Company. What they are trying to get across when they say the Boss and the Company are liars, crooks, mean, etc., is that the Union officials are just the opposite—that they are truth-loving, honest men who love each and every member. One trouble with this method is that it was tried many years ago by salesmen and stopped because it was found that it not only didn't sell anything, but it actually tended to sell the other product.

The other thing wrong with this practice is that people do not like to work or live in an unpleasant, negative atmosphere. The Union officials are using methods that may have been successful at the ignorant, communistic level. They apparently have never bothered to find out that southern textile employees are too smart to be misled, too independent to be told how

" . . . employees get tired of hearing . . . bosses being called crooked and everything bad . . . "

to vote, and too honest to take an unfair advantage.

Union Officials. What sort of people are the top Union officials? This is important alike to the employee and the Company. The employee has a right to expect to be ably represented in an honest, efficient manner. After all, he places his affairs in the hands of the Union, and his money pays all the expenses. The Company has a vital interest in this Union official who has the legal right to tell him what his employees say and think and then tell the employees what the Boss has said. Obviously the need is for a man of the highest capabilities. Are they? What are they really like? Let's look at the record:

With the laws of the land loaded for them; with the White House receptive in the past to their every demand; with these and other advantages, the Union officials have actually lost ground. In the southern textile industry they are pitifully small. In a recent year that one Union announced a million dollar membership drive with glowing predictions, Union officials spent the million dollars but had to admit they *lost* in membership that year.

I have already mentioned the strike of two years ago and that for several weeks lost pay the operatives gained nothing. Look at that strike from a Union viewpoint. A strike to be successful should be called when companies are anxious to run. Also, it must create a shortage of badly needed services or materials. The strike two years ago was called on a falling market. The Union calling the strike could only affect less than 15% of the mills? Is that paralyzing? It wasn't even felt; in fact, it was barely noticed. Actually, all the Union mills never did strike, and the whole strike collapsed in a few weeks.

I could go on and on citing proof that Union leaders have failed miserably. The tragic part is that they had a golden opportunity to do an outstanding service.

Everything I have said may give the impression that I am opposed to the whole idea of Unionism. This isn't the case. The theory of Unionism as portrayed in college books and some religious papers is certainly good. Perhaps with leaders possessing wisdom and vision, these theories could become practices.

I do say that under existing labor leaders, any plant is better off not to have a Union.

It may be that I am naive in thinking that there is now no need for Unions. We all agree that the mistakes of Management twenty

" . . . employees are too smart to be misled . . . "

and thirty years ago caused Unions. I submit that modern Managements have recognized and corrected those mistakes. The Union leaders were not smart enough to profit by Management's mistakes to the extent of not making the same mistakes themselves. In fact, they are now going to limits beyond anything the old Managements ever did.

Is there any answer to this

Riegel Textile's New Warp Spinning Mill at Trion

When the glove mill was moved from Trion to Greenville, Ala., Riegel Textile Corp., Trion, Ga., converted the space into a warp spinning unit. The new unit is equipped with new Saco-Lowell opening, picking, and spinning machinery and Barber-Colman spooling and warping equipment. Riegel needed more spinning to take care of weave room production, and the former glove factory floor space filled the bill for the new warp spinning unit.

Equipment in the new spinning unit includes six opener hoppers, a trash ejector, No. 12 opener with No. 11 condenser, two Superior cleaners, three F4 pickers equipped with blending reserve, one hundred 40-inch cards equipped with individual motor drives, 112 deliveries (half breaker, half finisher) of three-over-four roll DS2 drawing, six FS2 fly frames, fifteen 120-spindle SS2 spinning frames with Shaw drafting, two spoolers, and two warpers operating at 900 ypm.

This mill is running 17s, 14s, 14.5s, and 15.25s warp yarn, and is an example of good housekeeping throughout. The cards are equipped with 14" cans. Every piece of equipment was the latest model when it was installed a few months ago.

Berkshire's Building within a Building

44 of the Reading "100" model 66-gauge knitting machines are being installed in a building within a building at Berkshire Knitting Mills. The machines will be operating in a special air-conditioned enclosure consisting of inner and outer walls.

The electronic control panels of the machines are located outside the enclosure, between the two walls. Heat thrown off by control units is thereby eliminated from the conditioned area. Small openings in the wall above each control panel permit electricians to observe the machine while adjusting controls. Also located in this passageway between the walls are the air conditioning ducts.

whole problem? I try to believe that most problems can be corrected. The few that cannot usually are ones that exist so long it is too late. If the Union leaders' problem hasn't existed too long, they may solve it. Obviously, the present policies and practices are not getting results.

I don't know what a Union should do, but I do know that any Company facing a similar problem would clean house. Any necessary changes in personnel would be made. Any wrong policies or practices would be corrected. All this provided action came soon enough. If not, then failure.

Management and Union should never forget that public opinion will judge each as to its contribution to the general welfare. Public opinion is a force too powerful for either to ignore—for either to withstand.

Management has a job to do. In mills already Unionized, it should keep its actions beyond reproach while keeping the public informed as to the actions of labor leaders.

In mills not Unionized, Management should so conduct itself that a Union is not needed. Management should maintain an open mind on the subject of Unions. Management's position should be that when Union leaders make their influence truly a blessing to employees, Company, and Community, they will be so received.

The proof that Unions have become a blessing will be accepted when it comes from the plants and communities doing business with them.

Mill Reports on the SRRL Opener

Experiences with SRRL-type cotton openers under representative mill conditions during the past two years indicate the machine is a worthwhile investment.

By RALPH A. RUSCA and RAY C. YOUNG
*Southern Regional Research Laboratory**

THE OPERATING principle and laboratory performance of a new textile opening machine developed at the Southern Regional Research Laboratory were described in an earlier paper (1). It was pointed out that the opener restores lint cotton to a loose, fluffy condition similar to its condition at the cotton gin before baling, and thereby results in more effective trash removal by standard textile cleaning equipment.

The paper mentioned that the need for increased mill cleaning efficiency was being brought about to a large extent by the trend toward cotton farm mechanization. Harvesting cotton by mechanical methods is no longer a "trend;" it has increased with such startling rapidity that nearly one-fourth of the 1952 crop was harvested by this method (Figure 1). About 150,000 bales were harvested by mechanical means in 1948, about 800,000 in 1950, and more than 3 million bales in 1952.

The SRRL-type cotton opener was developed specifically to facilitate cleaning machine-harvested and other trashy cottons. During the past two years a number of these openers have been installed by the textile industry, and the purpose of this discussion is to relate mill experiences with the equipment.

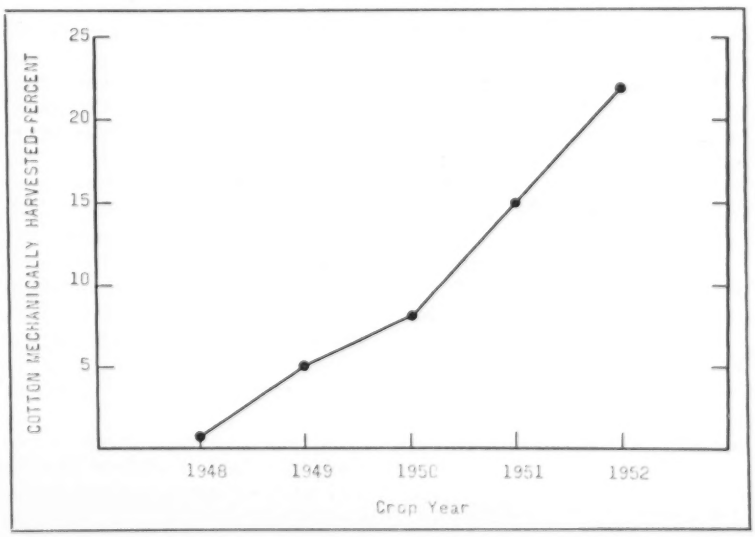
Laboratory Results. Tests at the Southern Laboratory with a pilot plant model opener had shown that standard textile cleaning equipment would remove more trash and produce cleaner picker laps from the well-opened cotton, and at the same time the amount of spinnable fiber in the opening-picking waste would be reduced (1).

It was expected that a commercial size opener would process 2000 pounds of cotton per hour, use 15 horsepower, and require 2500 to 3500 cfm air. Recommended main cylinder speeds were 300 to 500 rpm for short cottons, and 300 to 400 rpm for cottons longer than 1 inch.

Mill Results. Many mills have inquired about the results being obtained with the opener under production conditions. To answer these queries, several cotton yarn manufacturers processing a range of grades and staples were asked for factual data on their experiences with SRRL-type openers.

The data supplied by Swift Manufacturing Co., Columbus, Ga., represents an application on low-grade short-staple cottons. The opener was added to the line of existing equipment; no machines were by-passed. As shown in Table 1, the use of the opener resulted in a cleaner picker lap and a material saving in spinnable fiber in the waste. Nep count was essentially the same. Yarn strength was improved about 5 per cent. No effect on staple length was found. These results are from a 13,000-bale production test made under close supervision. Percentages of

FIG. 1. Per cent of cotton crop mechanically harvested, 1948-1952.



*One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

Table 1. Processing Waste and Yarn Data—cotton processed without and with cotton opener at Swift Mfg. Co.

	Low Grades Without	Short Staples With
Per Cent Waste		
Opening	3.1	3.1
Picking	2.6	2.2
Carding (exc. strips)	5.0	4.5
Total	10.7	9.8
Per Cent Fiber in Waste*		
Opening	19.8	14.6
Picking	17.6	14.6
Per Cent Trash in Picker Lap*	4.6	1.6
Neps/150 sq in.	20.9	21.5
Yarn Skein Strength—lb		
8s	207	218
10s	164	175
16s	107	114

*Determined by Shirley Analyzer.

Table 2. Processing Waste Data—cottons processed without and with cotton opener at West Boylston Mfg. Co.

	Low Middling——1-1/32" Without	With	Middling——1-1/32" Without	With
Per Cent Waste				
Opening	.99	1.55	.48	.74
Picking	1.07	.94	.50	.44
Carding	6.50	6.12	4.80	4.70
Total	8.56	8.61	5.78	5.88
Per Cent Fiber in Waste*				
Opening	9.1	6.9	9.2	9.4
Picking	3.5	3.9	5.8	2.5
Per Cent Trash in Picker Lap*	3.9	4.0	1.4	1.3

*Determined by Shirley Analyzer.

lint in the waste were determined by Shirley Analyzer** tests.

All of the cotton is processed through SRRL-type openers, at an estimated saving of 55¢ per bale for cotton alone. Officials of Swift Manufacturing Co. reported that their openers paid for themselves in nine months.

It should be noted that some experimentation by the mill was necessary to achieve best results with the open, fluffy stock produced by the openers. The grid bars of the cleaners and pickers were set closer to their respective beaters, and the openings between adjacent grid bars were decreased (2).

The processing data from West Boylston Manufacturing Co., Montgomery, Ala., are examples of results obtained with openers on low and medium-grade, medium-staple cottons. The figures show no difference in opening, picking, and carding waste, nor was the trash content of the picker lap affected (Table 2). In this instance, the mill made no changes in grid bar settings in the cleaners or pickers. There was no evidence of staple damage.

The amount of lint in the waste decreased from a total of 12.6 to 10.8 per cent for the Low Middling cotton, and from 15.0 to 11.9 per cent for the Middling grade. The mill regarded this decrease as a significant saving in cotton yearly.

Table 3 presents an analysis of the yarns produced. For the Low Middling cotton, there was a marked improvement in spinning efficiency and yarn number variability (based on weight/unit length). Yarn uniformity was slightly less, as measured with the Uster Tester**. Yarn strength was unchanged. For the higher grade cotton, yarn strength was increased 3%, and yarn uniformity and grade appeared better.

Production at Joanna Cotton Mills Co., Joanna, S. C., is on high-grade, medium staple cotton. Comparative results from two processing lines are presented in Tables 4 and 5. Line No. 1 consisted of blending feeders, two cleaners in tandem, and two-beater pickers. Line No. 2 consisted of blending feeders, one SRRL-type opener, and two-beater pickers. Similar stock was processed in both lines.

The picker room data show a difference of .62 in the percentage of waste removed by the line with the opener as compared with the regular line. The trash content of the picker laps was reported to be essentially the same for both lines, and the decrease in waste was attributed, therefore, to decreased fiber loss. The saving in spinnable fiber was actually about .7 per cent, when consideration is given to the fact that line No. 2 had 10 per cent less fiber in its waste than line No. 1. Fiber length was unchanged. The mill estimated an annual saving in the picker room of $22,400 for cotton alone. On this basis, the opener paid for itself in less than six months.

Similar results were reported for the card room (Table 5). Less card waste, fewer neps, and slightly more uniform card and drawing sliver were produced. The decrease in neps is regarded as significant by the mill.

Other Mill Uses. All of the mills contacted by the Laboratory reported the opener unsurpassed as a blender. The design of the machine is such that five thin webs of cotton are separated from a large rotating mass and then are combined in the air duct on the output side of the opener to form a well-

**The mention of trade products or companies does not imply that they are endorsed by the Department of Agriculture over similar products not mentioned.

blended stock. One mill installed an opener for its blending ability alone; cleaning and fiber saving were of secondary importance. Improved blending resulted in less shade variation in dyed goods.

One of three openers installed at the Swift Manufacturing Co. plant is used to process raw stock dyed cotton. For the same weight of stock, the thickness of the batt on the lattice apron feeding the picker increased about ten-fold with the opener in the line. Matted lumps of dyed stock were reported to be effectively opened and fluffed.

Other known applications include opening short-staple Indian cotton packaged in high-density bales; salvaging water- and fire-damaged cotton; and opening natural vegetable fibers other than cotton.

Table 3. Yarn Data—cottons processed without and with cotton opener at West Boylston Mfg. Co.

Mill Yarn Analysis	Low Middling—1-1/32" Without	Low Middling—1-1/32" With	Middling—1-1/32" Without	Middling—1-1/32" With
Ends down/M spindle hr	51.7	35.8	21.3	23.0
Number	12.00	12.00	12.00	12.00
Observed number	11.44	11.93	11.69	11.63
Observed skein break—lb	180	172	178	184
Skein break—corrected	171	171	173	178
Str. constant—corrected	2047	2050	2074	2132
Laboratory Yarn Analysis*				
Number—% coef. var.	3.6	1.1	4.0	1.6
Uniformity—% range	91.4	99.1	82.5	79.8
Uniformity—% mean dev.	15.4	15.9	13.9	13.6
Grade	B-	B-	B+	A-

*Laboratory yarn analysis by SRRL.

Maintenance. Reports indicate reasonable maintenance for this high-production equipment. Detailed cost records of one mill with two openers in use since 1951 show a maintenance of $963.19 for processing more than 116,000 bales, or about 0.83 cent per bale. One half of this amount was due to a mechanical accident to one machine soon after installation; if this accident is excluded, maintenance cost was 0.4 cent per bale.

A second mill with two openers in operation for about six months reported maintenance limited to the cost of a bearing replacement and normal lubrication and cleaning.

A third mill with one opener installed five months ago reported the machine was worked into the opening room maintenance schedule without any extra cost for labor, and none to date for supplies.

Table 4. Opening and Picking Data—cotton processed without and with cotton opener at Joanna Cotton Mills Co.

Picker Room	Strict Middling—1-3/32" Line No. 1 Without	Strict Middling—1-3/32" Line No. 2 With
Per Cent Waste		
Opening	.73	.06
Picking	.44	.49
Total	1.17	.55*
Estimated saving/year for cotton		$22,400
Lap Uniformity		
S.L.—% within limits	96.6	98.2
I.T.T—% Nue	10.5	10.7

*Shirley Analyzer tests showed 10% less spinnable fiber in line No. 2 than line No. 1.

Table 5. Carding Data—cotton processed without and with cotton opener at Joanna Cotton Mills Co.

Card Room	Strict Middling—1-3/32" Without	Strict Middling—1-3/32" With
Waste		
Flats gr/flat	13.3	13.1
Fly oz/hr	2.0	1.9
Neps/100 sq in.	40.2	38.4*
Card Sliver—% var.	13.1	12.9
Drawing Sliver—% var.	20.9	20.2

*Significant decrease.

Fire Hazard. Whether or not a high-production machine like the opener is a potential fire hazard is occasionally questioned. Mills that have used openers for up to two years state that fewer fires are generated in this machine than in conventional cleaning equipment. Hard objects such as bale buckles and stones are thrown out by the lattice belt under the opener; they cannot pass through the opener and thus the fire hazard in subsequent processes is also lessened. The high velocity air stream in the opener lint duct results in snuffing out any sparks that might occur, the mills report. As a precautionary measure, however, a simple gravity trap and a magnetic separator should be installed at

Fancourt New Phi Psi President

Walter F. Fancourt, III, vice-president of W. F. Fancourt Co., was elected president of Phi Psi national honorary textile fraternity during the 50th anniversary convention of the organization May 7-9, at the Penn Sheraton Hotel in Philadelphia, Pa. Mr. Fancourt succeeds M. Earl Heard, vice-president and director of research of West Point (Ga.) Mfg. Co.

Willard A. Colby of Emery Industries, Charlotte, N. C., was elected vice-president succeeding James L Giblin of New Bedford Textile Institute.

The annual banquet on Saturday evening was a highlight of the occasion. Guest speaker was Dr. L. H. Hance of the Institute of Textile Technology. Preceding this event honorary membership in the fraternity was bestowed on Bertrand W. Hayward, director of Philadelphia Textile Institute, and Harry Reimer, editor of "Daily News Record."

How to Command Top Prices for Waste

To command top prices for waste materials, S. Shapiro and Sons, Inc., Baltimore, Md. rag and textile by-products dealers, offer the suggestions that wherever practical

(1) Don't contaminate cuttings with elastic, rubber bands or floor sweepings;

(2) Don't mix synthetics with cotton cuttings;

(3) Don't mix different types of synthetics, as generally the difference in value is enormous;

(4) Don't mix other fibers with 100% wool cuttings.

The proper sorting and packing of waste materials is of critical importance to textile manufacturers, the firm points out in an attractive and informative brochure, "The Romance of Rags—The Story of the Textile Waste Materials Industry," not only because it is so important to secure the greatest possible revenue from salvage, but — even more important — because careless sorting and handling of cotton cuttings and the inclusion of foreign matter is actually endangering the best markets for cotton clippings—the paper mills.

Once the waste materials have been contaminated, it is next to impossible for either a waste sorting plant or a paper mill to detect its presence in a shipment of rags. Yet, even a very small amount of rubber can ruin many rolls of fine white paper, the waste dealer states. Because of this, paper mills have been forced to look elsewhere for raw materials.

Unless the proper separation is made at the source, some grades are impossible to regrade; so that there is a definite loss by way of price or the net result in the income of the textile manufacturer for his waste. Thus, by careful planning he can secure the very best results without having to pay for extra freights involved, and extra labor on the part of the dealers to whom the waste materials are sold.

Many plants do not realize the advantages gained in baling their waste, the firm stated. Baled material will save ¾ of the space required for loose materials and from ½ to 1/3 of bagged or packaged in cartons. The plant will be cleaner and freer from fire hazard; there will be no spillage in moving the material. Cost of handling baled material is much lower for the mill and, in turn, for the waste dealer; consequently, he can pay more for the waste.

the point where the feed table discharges into the opener.

Laboratory Recommendations. Mill experiences have substantiated the Laboratory's original recommendations in regard to production rate and cylinder speeds (1). The power consumption is lower than was anticipated; and the air is greater. Not less than 4000 cfm air, measured near the opener, are required for a 34-inch wide model. Because of the need for this amount of air, in practically all installations it was found necessary to use a condenser larger than a No. 11**, or else to divide the opener output between two condensers. A 17-inch wide opener can be handled with a single condenser and a reasonably short length of conveying pipe.

Commercial Use and Availability. Twenty-seven openers are known to be in operation in the textile industry. Included are installations of four machines by Johnson and Johnson, three by Swift Manufacturing Co., and two each by Joanna Cotton Mills and West Boylston Manufacturing Co. of Alabama. These organizations tried out one machine and added the others later.

SRRL-type openers are currently available from four textile machinery manufacturers; nine companies are licensed under U. S. Department of Agriculture patents to produce this equipment. Two sizes are available from some of the manufacturers: a 34-inch wide machine rated at 2000 pounds per hour, and a 17- or 20-inch machine rated at approximately 1200 pounds per hour.

Conclusion. Experiences with SRRL-type cotton openers under representative mill conditions during the past two years indicate the opener is a worthwhile investment. When properly installed and operated, the opener has proved to have no effect on fiber length or nep count. It produces an exceptionally well-opened and blended stock. Trash removal by standard textile cleaning equipment is facilitated, and the amount of spinnable fiber in the opening-picking waste is reduced.

Acknowledgment. The writers wish to thank Walter S. Regnery, president, Joanna Cotton Mills; Charlton H. Williams, president, Swift Manufacturing Co.; and Dwight L. Epperson, superintendent, West Boylston Manufacturing Co. of Alabama, for their cooperation in furnishing the mill results presented in this paper.

References:

1. A Performance Report on the SRRL-Type Cotton Opener. Ralph A. Rusca and Ray C. Young. TEXTILE INDUSTRIES 115 (5): 105 (1951).

2. We're Opening at 2000 lb per Hr. E. A. Bentley, *Textile World* 116 (5): 109 (1952).

NEEDLES ARE OILED by applying lubricant with spray gun while machine is running, as shown here.

PRODUCTION is maintained with only one out of every 24 socks going into seconds (about 4% seconds). This amounts to an enviable production record, being about half the number of seconds produced by many mills on the same class of goods.

Good condition of circular knitters assured by

3-Point Maintenance Program

Management at Montgomery Knitting Mill insists on

- ***regular lubrication***
- ***continuous inspection by fixers***
- ***prompt replacement of worn parts***

Staff Prepared
EXCLUSIVE

AT MONTGOMERY Knitting Mill, Summerville, Ga., 160 Standard H knitting machines and 60 Fidelity and Brinton ribbers are kept in prime running condition by a program of (1) regular lubrication; (2) continuous inspection by fixers; (3) replacing worn parts before trouble develops.

These three items help the mill maintain production with only one out of every 24 socks going into seconds (about 4% seconds). This amounts to an enviable production record, being about half the number of seconds produced by many mills running the same class of goods on same type of equipment. This mill makes children's and misses anklets, plain rib, cotton and nylon.

Lubrication. Oiling is done every shift (mill runs two eight-hour shifts per day on a six-day week) by each fixer, and there are five fixers on each shift. Needles and sinkers are oiled on this schedule also. The frames are lubricated with grease once each month, including big gears, shafts, and bearings.

A special roller bearing grease is employed on the frames. Formerly an oil was applied once each week, but the grease was tried and proved to be better for this application; therefore the lubrication interval was extended from once a week to once a month. The fact that the grease was retained for a longer time permitted extension of the lubrication interval.

Three-In-One Shot. The main

Tips on Caring for Twister Belts

The use of belt dressing and the presence of oil on the belt are two causes of twister belt slippage, Universal Winding Co. reports in a recent issue of "Twists and Winds."

Manufacturers of belts commonly used on Universal twisters stress that belt dressing should not be used, the bulletin states; also, oil is detrimental to the belt if there is natural rubber in its composition, and the belt's coefficient of friction is reduced with resultant belt slippage if oil is present on endless belts made with synthetic rubber.

Suggestions for cleaning the belts included:

(1) Clean as often as presence of oil is detected on surface; also when dirt and lint accumulate.

(2) Clean with dry cloth or one saturated with a cleaning solution, if required. Hold cloth against belt while it is rotated by hand. Clean both sides of belt.

Another recommendation given to get maximum service life from these belts was: Watch belt tension carefully; when installing new belt, relax take-up mechanism enough to allow belt to slip onto pulley freely—prying belt on may damage it.

drive shaft for each knitting machine was modified by drilling a ⅜" hole in the center and extending almost full length of the shaft. There are three bearings on this shaft; two bearings on the frame, and one on the loose pulley. A ⅛" hole was drilled through the shaft at each bearing, and a high pressure grease fitting was installed at the open end of the shaft. Now instead of greasing the three bearings one at a time, all three are greased simultaneously by one shot which distributes the grease from the hollow shaft through each of the ⅛" holes directly to the three bearings.

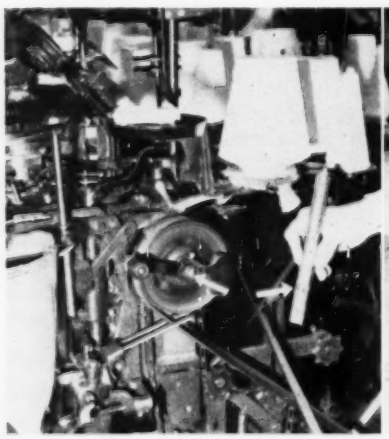
Inspection and Replacement. Inspection is done at all times the fixer is not busy on a specific job, and all worn parts are replaced as they are noted by the fixer. When several machines are temporarily inactive because the operator is out sick or for other reasons, the cylinders are removed, cleaned of lint and dirt, and the needle slots are lightly filed with a slot file. Then the needle cylinder is replaced in the machine and new needles are installed. This procedure keeps quality up and reduces time out for repairs.

The machines are tagged and dated each time they are cleaned and needles installed. Minor cleaning is done once a month. Needles are replaced once each year.

Needle Alignment. One important item that is sometimes overlooked is keeping the needles in proper alignment. This job is done on a continuing basis at Montgomery. The fixers constantly check each machine for this trouble. Most knitters know the importance of properly aligned needles, but on this type of work (transfer tops) the average operator bends needles frequently in putting the tops on the knitting head. Sometimes the operator fails to tell the fixer about bent needles with the attitude "aw, they won't stay straight—it's a waste of time to try to keep them straight."

The foreman of knitting here constantly reminded the fixers about the importance of keeping the needles straight, and now the fixers have formed a habit without having to be reminded every time the job needs attention. The fixers and knitters are given freedom to run their jobs for the best interest of the majority, and their cooperation is evident by the good job they do.

MAIN DRIVE SHAFT was modified by drilling a ⅜" hole in center and extending almost full length of the shaft. ⅛" holes at bearing locations along the shaft supply grease to three bearings simultaneously.



CYLINDERS are removed, cleaned of lint and dirt, and the needle slots are lightly filed with a slot file. Then the needle cylinder is replaced in the machine and new needles are installed. Needles are usually replaced once a year.

BENT NEEDLES must be straightened and aligned properly. This job is done on a continuing basis at Montgomery. The fixers constantly check each machine for this trouble. The average operator bends needles frequently.

Employees Suggest Printing Aids

Knot Catcher for Back Greys

An angle iron guard was placed on printing machines at Riegel Textile Corporation, Trion, Georgia, to prevent knots that are left in the back grey rolls from going through the print machine. J. L. Broome points to his "knot catcher" idea which stops laps and knots in back grey rolls before entering the print machine; otherwise laps or knots would damage print blanket, and lapping on cylinder would occur due to extra pressure produced.

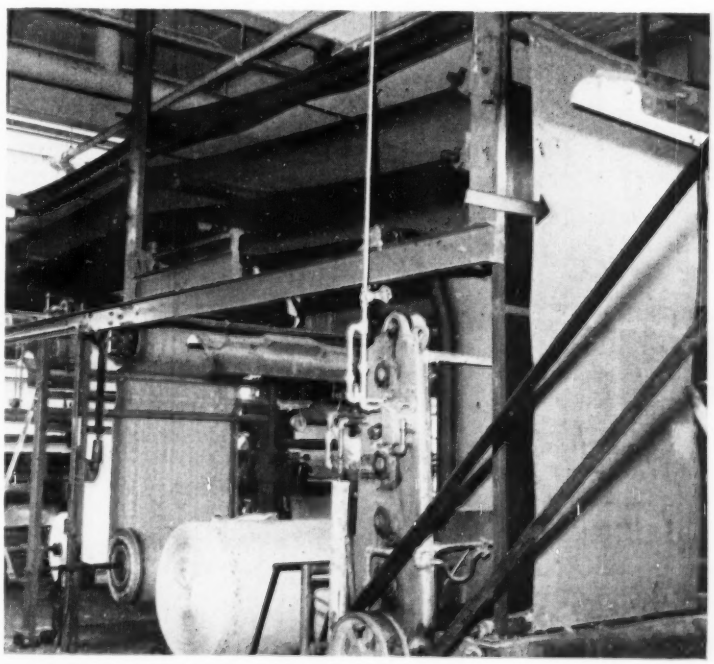
Most knots are made when drying back greys after washing. Tear-outs cannot be sewed while the back grey is partially through the dry cans. When the back grey is returned to service on the print machine, the knots are not readily evident. The knot catcher tears the grey apart when laps or knots are presented, unless the lap or knot is detected and corrected before it reaches the knot catcher.

"Textile Industries" staff photos

Guard Protects Printing Blanket

A back grey guard installed on printing machines at Riegel serves to keep back greys out of the blanket wash in instances where the back grey is broken or torn apart. The accompanying photo shows back part of the screen guard which extends from top front of the print machine to bottom back. A plaiting swing is the only pulling force for back grey at the back of the print machines.

If the back grey was broken, formerly it was pulled by print blanket and eventually got into blanket washer (if it did not fall directly into washer) and in some instances an expensive blanket was damaged or ruined. The screen guard is well worth the investment. The idea was submitted by Ted Martin, an employee of the printing department.



Fiber Characteristics Important

Prepared for ready reference, the chart is based on an address by D. M. Thornton of DuPont's Textile Fibers Department, before American Society of Mechanical Engineers.

NEW FIBERS have been the source of many problems at the mill level. In the constant attempt to lower processing costs of synthetic staples and improve quality of the product, a new concept that deals with the influence of fiber characteristics in staple processing has developed. The physical characteristics of each synthetic fiber can give valuable leads towards the predetermination of optimum speeds, settings, drafts, and other variables in the mechanics of yarn manufacture.

Armed with the knowledge of these fiber properties, the mill man has a guide in prescribing principles of the operation before the yarn has been spun.

The chart presented here for the first time illustrates how this principle may be used in establishing a worsted process, and the same principles can be used

Fiber Properties

Worsted

Fiber Properties	ORLON	NYLON	DACRON	REMARKS	Preparatory Processing	Carding
(1) TENACITY	Low	High	High	Indicates fiber toughness. Determines amount of working fiber can be subjected to without damage. Toughness leads to lighter weight, greater durability.		
(2) ABRASION RESISTANCE	Medium	High	High		(6) Unnecessary to open bales prior to use provided that they have not been stored for long periods in an unconditioned area.	(6) (8) Moderate opening at Bramwell feed. (3) (4) (8) More open settings. (3) (4) (8) Moderate working and stripping action required. (3) (4) Fancy optional. (6) Light weight sliver to permit passage through conventional coiler mechanism.
(3) CRIMP	Medium	High	Medium	Crimp is a factor in controlling mass cohesion, opening, and drafting characteristics. Determinant of best machine settings.	(2) (4) (8) A 24-48 hour blossoming of nylon stock prior to putting it to work is desirable. Doing so permits less working, less fiber damage, and less nep formation in later processing steps.	(6) (8) More opening at Bramwell feed. (3) (4) (8) Closer setting and more working and stripping action without permanent damage to fiber due to (1) (2) (5). (3) (4) Fancy desirable. (6) Moderate weight sliver.
(4) CRIMP RETENTION	Low	High	Medium	Ability of fiber to maintain original crimp. Affects processing tension and twist levels in roving and spun yarn as well as loft in end product.	(6) Unnecessary to open bales prior to use provided that they have not been stored for long periods in an unconditioned area.	(6) (8) Minimum opening at Bramwell feed. (3) (4) (8) Open settings and little working and stripping action. (3) (4) Fancy optional. (6) Light weight sliver to permit passage through conventional coiler mechanism.
(5) RESISTANCE TO PERMANENT STRETCH	Low	High	Medium	Stretching of fibers in processing tends to be recoverable later as shrinkage during dyeing and finishing operations.		Synthetics demand carding equipment in top mechanical condition. Uniformity of staple with absence of foreign material allows easy maintenance.
(6) BULK	High	Medium	High	Loft of fiber as it shows up in processing. Taken into account when establishing machine settings, feed rates, sliver weights, and trumpet sizes.		In blending with wool, separate oiling of the wool is a must for best processing and yarn quality.
(7) FIBER TO FIBER FRICTION	High	Medium	High	Ease with which fibers move across each other under tension, exclusive of crimp. Determinant for optimum drafting conditions.		Difference in dyeability of fibers compels cleaning cards thoroughly in change-overs.
(8) MASS COHESION	Low	High	Medium	Tendency of fibers to cling together, including effect of crimp. Determines amount of opening required and amount of working needed to parallelize fibers.		Desirable to increase surface speed gradually in order to eliminate abrupt changes and fiber damage.
(9) TENSILE MODULUS AT ELEVATED TEMPERATURES	Low	High	Medium	Properties change with changes in temperature. Must be taken into consideration when handling at elevated temperatures. Responsible for "crimp setting" and "pleat setting".	Blending of bales prior to processing results in greater uniformity of final product.	(7) (8) Control of temperature and humidity required to achieve uniformity of operation. Maintain uniform and accurate settings for highest quality card sliver. Use of staple diagrams and sliver evenness tests desirable in analyzing sliver quality and achieving yarn uniformity. Check fiber breakage and elongation frequently by means of staple diagrams.

in Planning Processing Details

equally well for other systems of yarn manufacture.

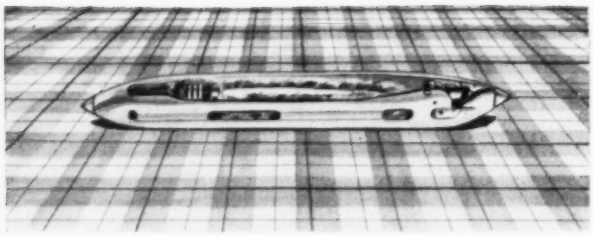
Taking "Dacron" polyester fiber, "Orlon" acrylic fiber, and nylon specifically, their relative values for various characteristics of importance in staple processing can be noted. The trained mill man can compare each value with what is to be expected of the machine and fiber in each stage of yarn manufacture, and then make the appropriate changes in equipment.

For example, how should nylon be handled in carding? Because nylon has high mass cohesion, high crimp, and high crimp retention, closer settings and more working and stripping action would be required. Fortunately, nylon's high tenacity, abrasion resistance, and resistance to permanent stretch allow this without permanent damage to the fiber. As is evident, awareness of the physical properties of nylon has enabled an intelligent approach in determining carding requirements.

Operation

Sliver to Top	Reducing and Roving	Spinning and Twisting
(5) Spread slivers as widely as possible with the least compression as fed to pin reducer in order to decrease working done on fibers in pinning zone. (5) Coarse range of pins. (6) Increased trumpet size, reduced sliver weight, or reduced number of slivers fed in.	(4) Moderate draft. (5) More open ratches without sacrificing control in order to avoid high tension which can cause yarn unevenness, cockled yarn, and ends down. (4) Low and uniform package density to avoid stretching fiber. (4) Low roving twist.	(1) (2) High productivity with low ends down. (5) More open ratches, lower drafts, and lower humidities as trouble shooting measure for high-twist roving. (4) Soft package.
(1) (2) (3) (4) (8) Finest range of pins necessary but this is feasible due to (1) (4) (5). (6) Can use many ends of sliver in feed. No changes in trumpet size, or sliver weight called for.	(4) Normal to high draft. (3) (4) (8) Additional pressure on roving rolls to avoid slippage. (4) Low and uniform package density to avoid crushing. (5) Close ratch. (4) Low roving twist for easy drafting and resultant maximum roving uniformity.	(1) (2) High productivity with low ends down.
(4) (5) (8) Coarse range of pins. (6) May require fewer ends in feed, increased trumpet size, or lower sliver weight.	(4) Moderate draft. (1) (5) Most open ratch without sacrificing control to avoid high tension which might result in high residual shrinkage, low yarn strength. (4) Low and uniform package density to avoid stretching fiber. (7) Low roving twist for easy drafting and maximum roving uniformity. (3) (4) (8) Roving roll does not require additional pressure.	(5) More open ratches, lower drafts, and lower humidity as trouble shooting measure for high-twist roving. (4) Soft package.
Equipment must be in top condition. Finer pinnings are used in successive stages, and, in general, finer pinnings are used for synthetics than for natural fibers. Minimum staple length for satisfactory control is 2½". Fibers are available in 3 and 4½" lengths also. Fibers require anti-static and lubricating finishes after stock or top dyeing. Essential that this be done separately in blends. All commonly used systems of pin reducing successful.	Higher machine speeds with fewer ends down are the rule since these synthetics are generally stronger than natural fibers. High humidities tend to make finishes tacky and fibers harder to draft. This affects the amount of twist required. The softest twist that can be used to unwind the roving package without fiber to fiber slippage is sufficient.	All three fibers spin satisfactorily on cap, ring, and flyer frames. Mechanical condition of frames is of prime importance for quality and production. Same relative humidity and temperature as established in the roving operation should be used and maintained at constant level to assure uniform drafting. Good roving makes spinning less critical. Depending on the lubricating power of the fiber finish, tenacity and abrasion resistance are influential in selecting spinning speeds and traveler weights. Use soft packages in spinning and twisting.

Combing: Since these fibers do not felt and cover up defects such as neps, a cleaner and more uniform yarn is necessary. Combing is generally desirable for clear faced woven fabrics. French combing is more desirable than Noble combing since the objective is to reduce nep levels only. Combing not required for knitting yarns.



Part 3

The first two articles of this series appeared in the May and June issues. Broken picks, broken filaments, dirty filling, and harness drops were covered.

By GEORGE WILLIAMS

EXCLUSIVE

Weaving Filament Synthetics

(emphasis on fine denier)

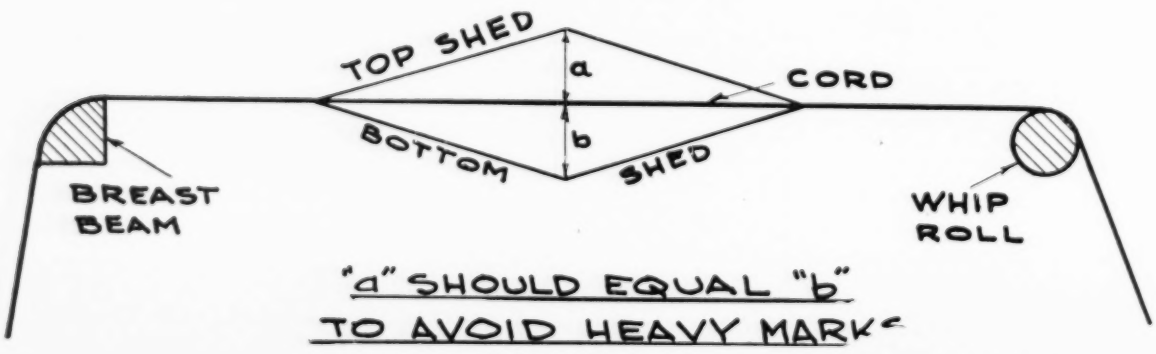
Defects: Causes and Remedies

Heavy Marks. *A cloth defect resulting from too many picks per inch being inserted so that there is a filling streak which contrasts with the properly woven cloth (also see "Waviness," Part 4).*

1. One of the chief causes of heavy marks is the result of running with the whip roll too high. This gives a slack top shed and a tight bottom shed. When the loom is stopped, the bottom shed will stretch, and set marks will appear as soon as the loom is started. The whip roll should be positioned so that the sheds are balanced. If the whip roll has been lowered until it almost touches the beam head and still the bottom shed is tight, the beam stands should be lowered so that the sheds can be balanced. To test for balance, stretch a piece of cord from the top of the breast beam to the top of the whip roll. Open the shed and measure the distance from this cord to the peaks of the top and bottom sheds. These should be equal.

The condition of the whip roll is also important. If the roll binds in its bearings or rubs against the head of the warp beam, the warp will be tight one moment and loose the next. This will cause alternate light and heavy marks.

2. When the loom stands idle for any length of time, the warp ends forming the shed will stretch. These marks are usually called set marks, but they are the same as any other heavy marks so far as the inspector is concerned. Some yarns stretch more than others when the loom is stopped. Also, the quantity, viscosity, and type of size used on the warp will influence the amount the yarn stretches and its ability to recover. The heavy marks are frequently followed by light marks.



3. If the gear teeth or the bearings of the take-up mechanism are worn, there is likely to be some play in the take-up roller, and when the loom is stopped, the warp tension will be relaxed. This will cause heavy marks in the cloth.

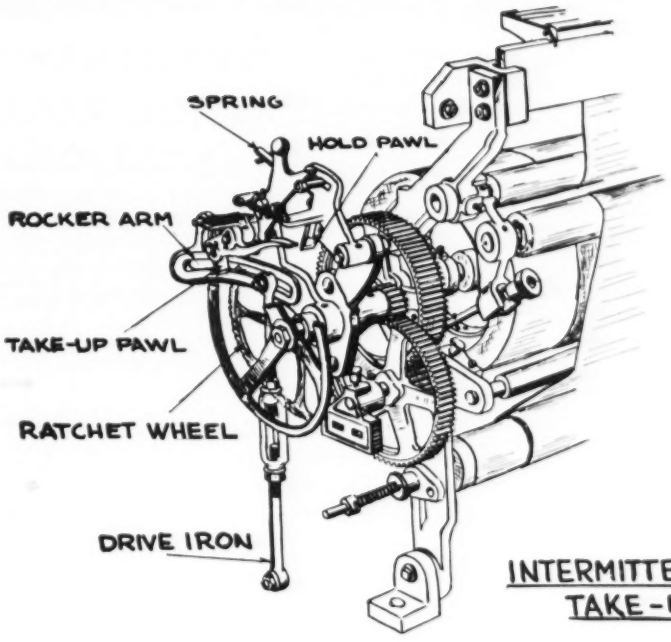
4. If the take-up pawl and hold pawl are not properly set, they will not engage a new tooth on the ratchet at every pick of the loom. If this occurs, two picks will be put in the space of one and a heavy mark will appear.

5. When a weaver stops a loom to take out a pick, he must let back on the ratchet wheel to compensate for the missing pick. If he makes an error and lets back too much, a heavy mark will be made. If he does not let off enough, there will be a light mark.

6. If a weaver starts the loom at bottom center or close to front center instead of pulling the lay all the way back, the take-up pawl will not get a full tooth on the ratchet. This will make a heavy mark. Since the hold pawl and the shipper lever work together, the weaver must pull the lever all the way in starting up or the hold pawl will not contact the ratchet wheel, and again, a heavy mark will occur.

7. If the rocker arm or the bearings are worn, the drive rod and rocker will not function smoothly but will jump from time to time, and the take-up pawl will miss completely or perhaps catch more than one tooth on the ratchet wheel. This will cause a variation in warp tension and the resulting heavy or light marks.

8. Too tight a cloth friction on the take-up will produce alternate light and heavy marks. With a tight friction the cloth will be stretched until it builds up enough force to break loose suddenly and run back over the take-up roll, giving a loose warp for several picks.

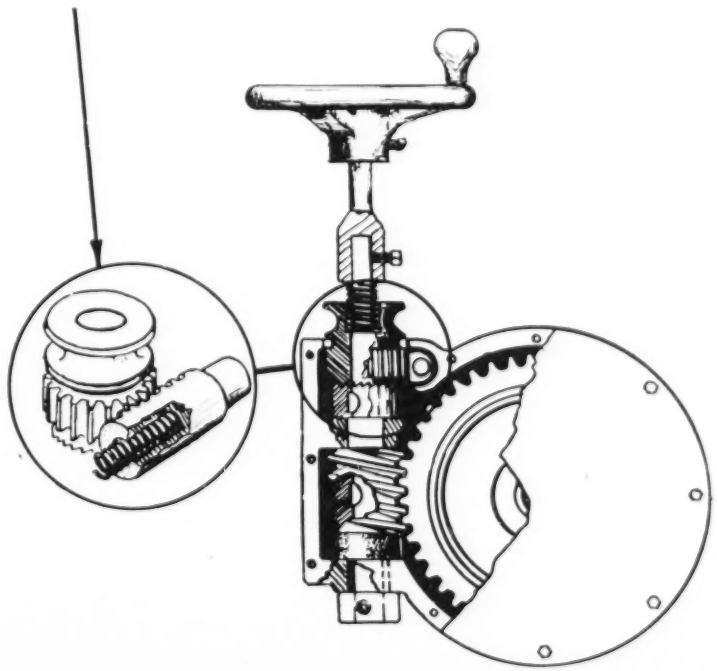


INTERMITTENT TAKE-UP

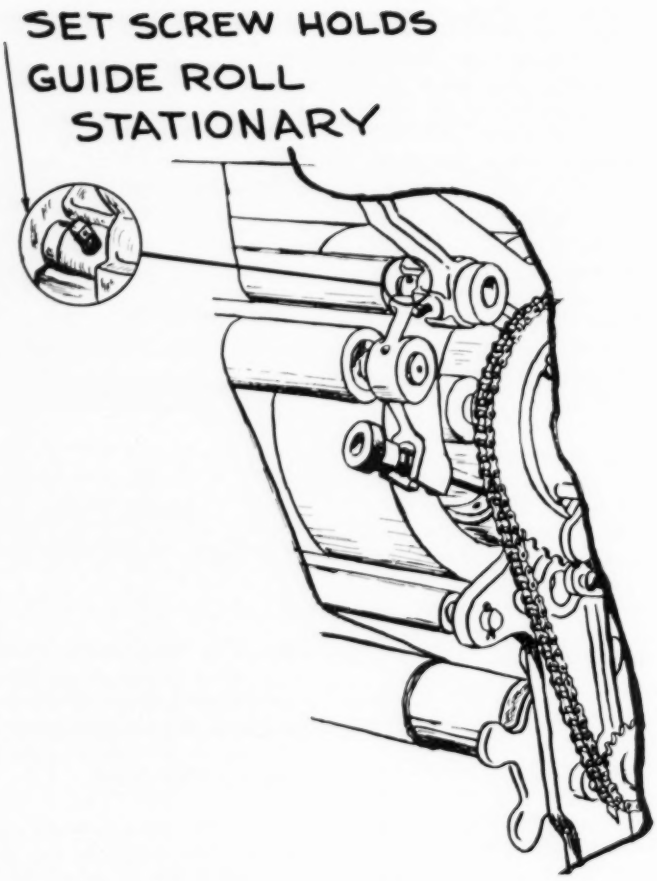
9. If a hand truck or some other heavy object hits the let-off mechanism, the blow can cause it to slip and relax the tension on the yarn. This will cause a heavy mark.

10. The let-off mechanism also controls warp tension, and any relaxing of tension from the warp beam will cause heavy marks. Old grease or too much grease on the ratchet or worm gears will permit the worm shaft to spin. This will let the warp go slack.

OLD GREASE HERE PERMITS SHAFT TO SPIN



11. The steel guide roll can cause heavy and light marks if it is running in worn bearings which will make it jump. If this trouble is encountered, it is best to lock the roll in place and operate it as a stationary guide. Set screws can be put in drilled and tapped oil holes to make the roll stationary.



12. Pressure rolls that are too heavy or too light or sticking in their bearings can cause heavy marks. Pressure rolls should turn freely and not touch the take-up roll at any point.

13. An incorrectly functioning reed will cause heavy marks. If the reed cradle drags against the angle iron on the lay or if the reed release spring bolts are worn, reed tension will vary and heavy marks will appear.

Also, if the lay hits the fell of the cloth when the loom is stopped, it will pack the picks. The loom brakes and the cams should be adjusted so that the lay stops at least ⅛ in. from the fell of the cloth.

14. The harnesses must give an even shed if heavy marks are to be avoided, and on dobby looms the knives must be adjusted to lift the harnesses evenly.

15. Occasionally, heavy marks may be caused by bent warp beam journals. This gives an eccentric motion to the warp so that it is loose on half a revolution and tight on other half.

16. A loose breast beam will let the warp run slack and produce occasional heavy marks.

Jerked-in Filling.

This is a slubby filling condition near the selvage which is the result of an end of filling hanging out from the selvage and then being jerked into the cloth on a later pick. This usually puts three ends in the cloth where the jerk-in occurs.

1. Most jerked-in filling is the result of a burr, a splinter, or some roughness which hangs the filling end and keeps it from being properly drawn through the shed. Check the following:

a. Burr or rough spot on the picker.

b. Rough binder covering or burr on binder.

c. Rough box front.

d. Worn or rough leather on shuttle guard.

e. Burr on rawhide on mouth of box.

f. Rough glue or bad spot on box lining or lay.

g. Rough paper on end of race plate on box looms.

h. Cracked shuttle or splinter on shuttle side.

2. On box looms, jerked-in filling can also be caused by the yarn from one shuttle twisting on that from another. If Z twist filling or filling with high twist is being used, this is fairly common, and separators should be used. This condition can be helped by fully conditioning the filling so it loses much of its liveliness.

Light Marks.

This cloth defect is the result of too few picks in the cloth, making a light streak which contrasts with the rest of the cloth.

1. Frequently, light marks are tied in with heavy marks. Any trouble which causes a variation in warp tension will cause both of these defects. Light marks are the direct result of too tight a warp. Whenever alternate light and heavy marks are seen, check for the troubles listed under "Heavy Marks" (page 96). When light marks occur alone, they are almost always the result of too tight a loom or too loose a drive friction, which lets the loom start slowly. Also, if the clutch slips, this will slow the beat-up so the picks are not properly fixed in the fell of the cloth.

Kinky Filling.

If the filling is not held tight as the shuttle makes a pick, the harnesses will cross on a slack filling yarn. This slack filling will stick up through the cloth in the form of a kink.

1. If kinkiness is common throughout the weave room, it is probably the result of insufficient conditioning of the filling. It could also be caused by too much tension in quilling or lack of uniform tension.

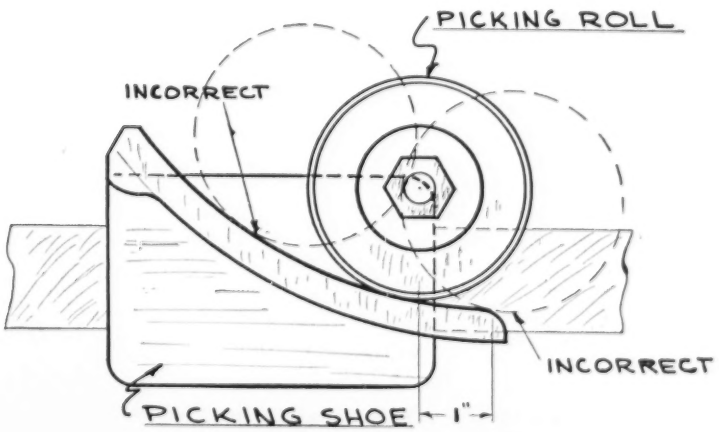
2. If kinkiness is localized to one or several looms, it might be caused by any one of a number of loom or shuttle faults. If, for example, tension is either too great or too little in the shuttle eye, or if there is a broken tension rubber, the filling will not be held properly as the pick is made. Somewhere across the warp there will be a loop of excess filling which will be woven in as kink. Not enough fur in the shuttle will have the same effect.

3. A rebounding shuttle will leave slack filling. This can be caused by too much power on the picker or by an incorrectly aligned box.

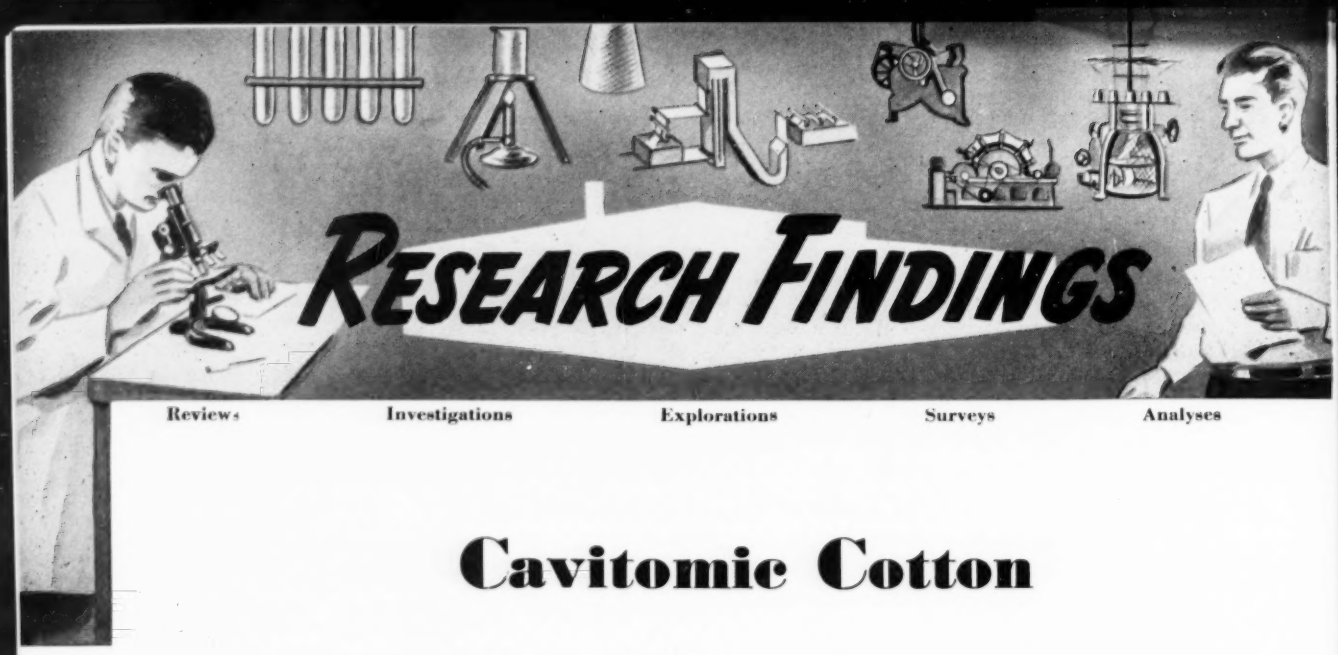
4. If the center stop motion is worn, if the feeler blades are too long, or if there is too much tension on the spring, the yarn will be pulled down into the well and held there until the shed closes on it, giving a kink. Even if the stop motion is in good adjustment and working properly, kinkiness will occur if the shed closes too early and catches the filling before it is released by the stop motion. If the filling runs out after passing the center stop motion and before it reaches the duck bill or thread cutter, that pick will be loose and kinky.

5. Kinky filling can be caused by filling hanging on any rough spot on looms or shuttle and then coming loose before the shuttle boxes. See item 1, under "Jerked-In Filling" for check points.

6. On the bat wing type of pick motion, if the pick ball strikes the point of the shoe instead of contacting it properly, the picker will give the shuttle a double lick, leaving the filling slack through the shed.



THE NEXT ARTICLE in this series, Part 4, to appear in an early issue, deals with low harness (overshots), mis-picks, shiners, puckery cloth, slubby filling, waviness, shuttle marks.



Cavitomic Cotton

CAVITOMA is the term applied to cottons which, following storage, have lost their good spinning qualities and show shorter than ginned fiber length. In the mill these cavitomic cottons result in more waste, lowered yarn strength, and more ends-down in spinning. Blending more than 15% cavitomic cotton with good cotton leads to inferior processing. A quick test for cavitoma is given.

By L. T. HALL and J. P. ELTING
Research Laboratories, Kendall Mills

EXCLUSIVE

THE HIGH SPEEDS and efficiencies necessary in cotton textile mills today to meet the increasing demands for minimum costs, require fiber properties not essential fifteen or twenty years ago. Cotton fiber properties have changed significantly during the last two decades as a result of intensive breeding programs. It has been desirable for the manufacturer to observe, study, and relate these changing fiber properties to performance in the mill. In the course of such continuing research, the laboratories of Kendall Mills first recognized cavitomic cottons.

Cavitoma Defined. Cottons of Middling and better grade and color were observed to lose their good spinning qualities during storage. Such cottons were called cavitomic. Fiber arrays reveal that these cottons become progressively shorter fibered during storage. This shortening is attributed to breakage of embrittled fibers.

Effect of Cavitoma in Processing. In the mill these result in more waste, lowered yarn strength, and high spinning end-breakage. The potential seriousness of cavitoma became evident when it was realized that neither the original damage, nor that following storage, were detected by the classer or by the usual fiber tests.

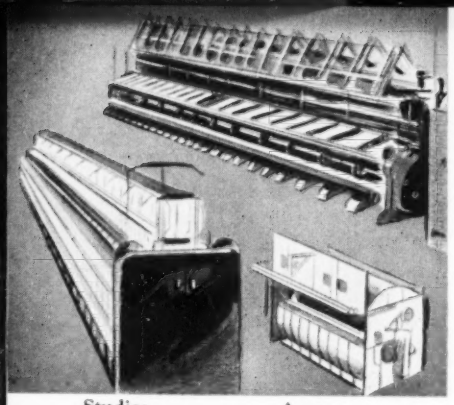
The embrittlement or weakening of the fibers is associated with a complex microbiological phenomenon. The damage is progressive, starting probably at the time of infestation. During storage the rate accelerates after March or April. Shortly after ginning, cavitomic cottons average about a 32nd of an inch shorter than other cottons of the same classer's staple, when measured at the upper quartile. After about ten months cavitomic cottons show an additional loss which not infrequently averages as much as 1/16th of an inch.

Some cottons will show less, others much greater change—depending on the degree of damage suffered prior to storage and the ambient weather conditions. The more variable the humidity and temperature the greater the deterioration in storage appears to be.

In some instances, cavitomic cottons have been observed, both in our mills and in others, to lower processing levels measurably soon after the cotton is ginned. Such cottons undoubtedly would have caused even greater trouble after several months storage.

Our mill data show that cavitomic cottons after five months of storage cause some inferior mill operation. Marked differences have been found in every case between cavitomic and non-cavitomic cottons of comparable grade, staple, and physical properties

The ninth article of a series dealing with research work and the practical application of research findings in the mill.



Studies Assays

Tell Your Own Research Story

THIS article constitutes the ninth in a series of "Research Findings." The purpose is to report on research in various fields in non-scientific terms so that management and practical operating men will know of developments and can direct application, further study, determine the value of research work to their production problems, and see if a definite pattern is evolving of numerous and apparently unrelated findings.

Recognition is also given throughout the industry to persons engaged in research work.

YOU ARE INVITED: Persons engaged in research work are invited to submit reports of research findings for this series. Remember, the findings are not directed to another scientist in the same field, but to busy executives and practical mill men. Please keep them to the point, omit the scientific terms, and show how your research work can be tied in with practical mill operations—and how your research findings can pay off.—Eds.

after eight months storage. Data from the USDA Spinning Laboratories supply supporting evidence of the deteriorating performance.

Example of Cavitoma "Blowing-Up" the Mill. *A typical mill experience with cottons stored in the same warehouse for eleven months showed the cavitomic cotton to cause 14% less yarn strength, 155% more ends down in spinning, and 25% more card flat waste than the non-cavitomic cotton. Before storage these two lots showed no differences in processing qualities. Both lots were identical in physical properties and were classed Middling 1 1/32 inch staple.*

At the time of storage the cavitomic cotton was slightly less than a 32nd of an inch shorter at the upper quartile and slightly less than a 16th of an inch shorter at the mean than the non-cavitomic cotton. After eleven months storage the cavitomic cotton was a full 1/16 inch shorter at the upper quartile and nearly ⅛ inch shorter at the mean.

How to Blend to Avoid Trouble. We call lots or markets cavitomic which contain more than 15% cavitomic bales. This is based on

Quick Test for Cavitoma

A solution consisting of 1 liter distilled water, 10 ml Gramercy Universal Indicator (Fisher Scientific Company) and 1 ml Santomerse S (Monsanto Chemical Company) is used. Approximately 3 ml of this solution are placed in a test tube and roughly ½ gram cotton, made up of pinches taken at random from a bale sample, is pushed through the solution by a glass rod.

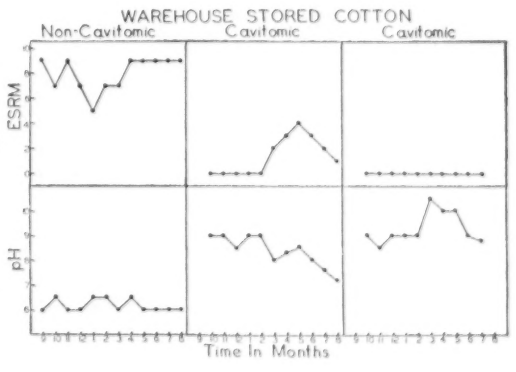
Changes in color are noted, both as the cotton passes through the solution and after the cotton is pressed to the bottom of the tube.

A non-cavitomic cotton will cause the originally light green solution to turn yellow or no change in color will be noted.

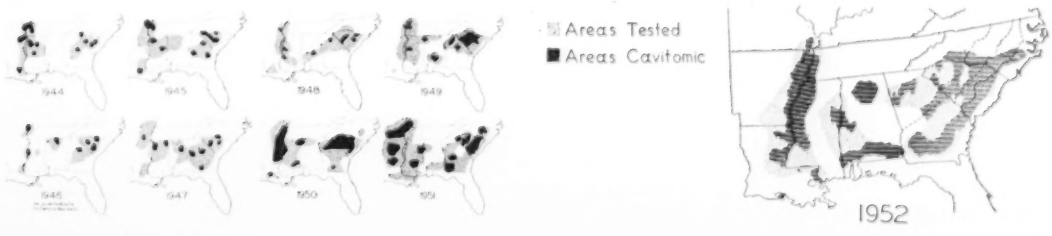
A sample which has both good and cavitomic cotton will show blue streaks as the cotton goes through the solution; the overall color change of the indicator solution may be negligible. Typically cavitomic cotton will turn the solution blue.

More highly degraded cottons will turn the solution violet.

Graphs are for typical bales of cavitomic and non-cavitomic cottons tested repeatedly over a period of 12 months. Differences noted in the non-cavitomic cotton are those expected in repeated sampling from a bale. ESRM refers to easily soluble reducing materials. Details for conversion of ESRM to percentage dextrose have been previously published.[1]



Where Cavitomic Cottons Have Been Located



Wool Top Futures Market in London

Opening of a wool tops futures market in London in April "should help in leading to a more orderly marketing of wool," according to Arthur O. Wellman, Nichols & Co., the first American textile concern to establish a London office.

Mr. Wellman points out that "through arbitrage between the New York and London markets, wool growers, dealers, and manufacturers throughout the world will find greater opportunities to hedge their position on raw and manufactured materials."

our mill experience that mixes having 15% or less cavitomic bales show no processing troubles attributable to cavitoma. Mixes containing from 15% to 30% show inferior processing, the degree depending on the percentage of cavitomic bales, the uniformity within bales, the stage to which the damage has progressed, and the thoroughness of the mixing. Decidedly inferior processing results when mixes contain more than 30%.

Is Cavitoma Increasing? Although damp and humid weather is known to be a controlling factor, a most disturbing observation is the increasing percentage of lots tested having more than 15% cavitomic bales in years generally considered normal or dry.

Table I shows the percentage of such lots found in cottons submitted by our buyers during the cotton season from the Southeastern and Central areas.

Table I. Per Cent of Markets Having More Than 15% Cavitomic Bales

Year	Wet Seasons	Dry or Normal Seasons
1944	19%	
1945	30	
1946		18%
1947		17
1948		19
1949	54	
1950	86	
1951		31
1952		49

The data represent only those cottons of staple and grade of interest to the Kendall Company and are thus obviously biased. These data in no sense represent a crop survey, but if we assume that the data are representative of the crop seasons then we may expect most if not all the cotton to be cavitomic in another wet or abnormally damp season such as occurred in 1944 and 1945 and again in 1949 and 1950.

If the increasing amounts of cavitomic cotton found in dry or normal years continues along the accelerated growth curve, we may expect 65% to 70% cavitomic lots in 1953, if it is a normal year.

In years generally considered dry (1946-47-48-51-52) we have found the areas in which cavitoma occurs have progressively increased as shown in the maps. The light shaded sections show areas from which cotton was tested; the dark shaded sections are areas in which any cavitomic bales were found. Most of the cottons used by Kendall Mills are from the Southeastern and Central areas; our data for the Western states are meager.

Our first mill experience of major proportion with cavitomic cotton was, however, from lots of Texas cotton in 1947. Information from other mill organizations making comparable appraisals show that cavitomic cotton occurs in considerable quantities from the western states.

Testing for Cavitoma. Numerous chemical tests are necessary to establish a cotton as definitely cavitomic. Tests used in Kendall's laboratories include wax, pectin, reducible material, pH, and microscopic examinations. The methods used and the data by which a cotton may be classed as cavitomic were published in 1951[1].

Although all the foregoing tests are necessary to establish definitely a cotton as cavitomic, that for pH is indicative. All cavitomic cottons that we have studied have been alkaline. We have observed some gray or blue-gray weathered cottons, in which the quality of the cotton is apparent and price adjustment made for it at the time of purchase, that do not deteriorate in storage, although quite alkaline (pH 9.5 to 10.5). Such cottons do not fall in the category of cavitoma.

Hopper[2], of the Southern Regional Research Laboratory (USDA), in a talk in 1950 on the non-cellulosic constituents of cotton, mentioned that some poor spinning cottons had been found to be decidedly alkaline and that pH might be useful as an auxiliary indicator of spinnability. A slight modification of our originally published method for pH is now used in order to permit the testing of several hundred bales daily by one operator; the other tests in their present stage of development do not readily permit testing on such a large scale. Details for this test method are given at the end of this article.

Recently the Department of Agriculture[3, 4] has published other test methods for determining pH and reducible materials in cotton extracts; these also may be used to detect cavitoma. Any quantitative methods for dextrose and pH may be adapted for the detection of cavitoma by using the average values for cavitomic cotton previously published[1].

For cottons held in storage beyond eight or ten months, pH ceases to be a reliable indicator of cavitoma. Cavitomic cottons usually have pH values from 7.8 to 8.5 shortly after ginning. Some cottons retain substantially the same pH during storage while others decrease nearly to the neutral point. The cottons which show greatest change in pH and reducible materials during storage usually show the greatest change in fiber length. See accompanying graphs (page 101).

When it became desirable to test large numbers of bales and at times to go directly into warehouses or the field, a modified pH test was essential. The "quickie test" for the detection of cavitoma used by Kendall Mills is given in the accompanying box (page 101).

References

1. "Cavitomic Cotton—Progress Report", Hall, L. T., Elting, J. P., Textile Research Journal, Vol. XXI, No. 8, August, 1951.
2. "Determination of Non-Cellulosic Constituents of Cotton", Hopper, T. H., The Cotton Research Clinic, 1950.
3. "Determination of pH of Cotton Fiber", Pons, W. A., Jr., and Hoffpauir, C. L., Textile Research Journal, Vol. 22, 1952.
4. "Cotton's Minor Constituents", Hoffpauir, C. L., Textile Industries, Vol. 116, No. 8, 1952.

Processing Dacron Staple Stock

on cotton and American worsted system machinery

HERE IS a summary of the technology thus far developed for the production of yarn spun of "Dacron" polyester staple on the cotton and American worsted systems. It was abstracted from recently published du Pont bulletins (CSB-D-16 and CSB-D-17) which were designed to serve in only a preliminary and suggestive manner. Continuing development will be required, the bulletins point out, to supplement and expand the preliminary and basic information presented here.

The general information and suggestions set forth are intended only as points of departure. Additional experimentation will usually be required in applying these suggestions to specific processes.

CONDITION Dacron polyester staple stock prior to processing at a temperature of 80 to 85 F (dry bulb) and relative humidity of 55 to 70%. Maintain these conditions in all processes if possible.

Open bales only as required and feed stock directly from bale to feed hopper. A mechanical feeding mechanism incorporating a hopper, horizontal and vertical spiked feed apron, a reciprocating comb, and knock-off roll has demonstrated effectiveness and control in opening Dacron stock adequately for good processing, but not to the extent of excess bulkiness.

Do not use air ducts to transfer staple to pickers.

Picking. Use conventional cotton picking equipment. Two beater stages (preferably Kirschner beaters) should be adequate. Fan speed, 1200 to 1400 rpm. Lap weight, 12 oz/yd.

Reduce lap splitting by (1) channeling air currents to deposit bulk of fibers on upper screen, (2) compressing staple sheet as it passes through calender rolls, and (3) relieving some of the compressive action on the lap as it is formed.

Avoid over-working Dacron. Use more open beater feed roll setting. Since Dacron has adequate mass cohesion, fiber-to-fiber friction may result in high fiber stress if mass of fibers is worked under excess pressure. Extreme result of excess fiber stress is permanent deformation with resultant loss of crimp and loft, uneven and cockled yarn through broken and overlength filaments, and variable dye receptivity.

Carding. Process staple 2″ and under on flat top card; over 2″ on roller top card. Use rayon type licker-in at 400 to 450 rpm; where licker-in tends to load, speed may be increased until surface speed is about same as cylinder. Cylinder speed, 165-175 rpm; doffer speed, 8-11 rpm; productivity up to 12 lb/hr. Sliver weight, 50 to 55 gr/yd for counts ranging up to 30/1.

Feed plate licker-in settings may range from 0.017″ to 0.010″. Sliver evenness is generally improved at closer setting, and experimentation is recommended to determine compromise setting close enough for optimum evenness and yet not resulting in overloading.

A fancy roll at front of card is desirable and usually necessary to prevent loading. Continuous stripper is not recommended and may over-work stock.

If troubled with static when proper temperature and humidity control are maintained, increase speed of calender rolls to point where slight draft is imparted to web.

Drawing. Use conventional equipment; two stages are generally satisfactory. Ratch settings should be opened; distance between successive positive roll nips should be at least ⅛″ greater than staple length.

Check sliver evenness and staple length at each stage of drawing periodically. Watch carefully for stretched or broken fibers at each stage.

If bothered with static after proper temperature and humidity are attained, a slight positive draft through use of higher calender roll speeds may provide additional control; but be careful not to introduce unevenness into sliver.

Higher roll speeds generally will be compatible with good quality.

Roving. Use conventional equipment. Open ratch settings should be used as in drawing; also higher roll speeds.

Low drafts are recommended. For counts coarser than 20/1, one stage is sufficient; for higher counts, two stages are usually required.

Use minimum twist — j u s t enough to keep ends together. Excessive twist gives trouble in subsequent stages and results in unevenness in roving and yarn.

Spinning and Twisting. Use conventional type frames. Open ratch settings should be employed in spinning drafting elements. Rollers, guides, travelers, and other parts of machinery which contact fibers should be maintained properly to insure good processing. In plying, twisting, and winding the use of minimum and

Straight Salary Increase Found to be Obsolete Method for Rewarding Key Men

Rising costs, scarce talent, and high taxes are making the straight salary increase obsolete as a way to reward high-bracket employees, so alert companies are instead turning to new methods like stock options, stock purchase plans, deferred pay, profit sharing, death benefits, and expense accounts. This trend is reflected in the arrangements used by 85 different U. S. companies to attract and hold key men, reproduced in "Pay Contracts with Key Men," a research study recently published by Business Reports, Inc., 1 Main St., Roslyn, N. Y.

Actual examples of all these solutions to the problem are included in the book, along with provisions and clauses taken from complete plans, designed to meet special problems that arise when using these new pay devices.

Other provisions reproduced in the study cover additional problems of general business interest. Several agreements show how employers provide against the possibility of business mergers in long-term contracts with employees. Others show how specific companies have provided for employees' family protection. Still others show how a company can protect itself against the possibility that employees covered by long-term retirement contracts may later compete with the employers.

Plant and Equipment Depreciation Ruling

On May 12, 1953, a new ruling regarding tax depreciation rates on plant and equipment was placed in effect which in general provides that once a depreciation rate for a particular property has been agreed upon by the taxpayer and the Internal Revenue Bureau, the tax collection agency will accept it thereafter unless "there is clear and convincing basis for a change." Those responsible for preparation of tax returns are reminder, however, that depreciation allowances must be based on the "useful life" of the equipment.

The new ruling affects all "open years for which agreements as to the tax liability has not been reached at any level within the internal revenue service as of that date."

District Internal Revenue Bureau commissioners and directors of internal revenue are to carefully consider the following in connection with depreciation:

(1) Facts and arguments presented by taxpayer on obsolescence and repair and maintenance policy.

(2) Whether tax depreciation rates used by taxpayers are fair and reasonable under the circumstances.

(3) Whether taxpayer has followed a consistent practice in arriving at amount of depreciation deductions.

(4) Whether in considering all factors, including reasonable tolerances, any adjustments proposed are substantial.

uniform tensions at all times is essential.

Several factors are involved in selection of proper twist, both in single and in plied yarn. End use considerations may require anything from a soft, lofty yarn to a hard, clear yarn of high strength. In spinning care must be taken not to reduce twist too low, since excessive breakage in plying and twisting may result. Also, better control of pilling may dictate use of higher twist in both single and plied yarns. Individual experimentation is suggested in order to develop a compromise compatible with efficient processing and with desired end use performance.

Making Dacron Yarn on American Worsted System

Maintain relative humidity in range of 55 to 70% at dry bulb temperature of 80 F during all operations to minimize static problem.

Opening. Feed staple directly from bale to Bramwell feeder at back of card. No opening or blossoming required.

Carding. Use of two-cylinder worsted card has been found satisfactory. Avoid over-working of staple. Use settings employed for nylon or fine wool as starting point. Sufficient carding can be accomplished by opening stock in breastworks and first cylinder section and by using closer settings on second cylinder. Best settings can be determined by experimentation, and will depend greatly on condition of card.

Frequent tests should be made of sliver evenness, weights, nep counts, and general web appearance.

Gilling and Pin Reducing. Gill box or pin drafter or combination of both can be used. Machines should be in good operating condition; watch condition of pins especially.

High feed loads can result in damage to pins and a permanent elongation of fiber. Initial work in drafting should be confined to light weights, which can be increased as experience is acquired

Coarse faller bars are suggested for initial operation; finer fallers in later processes. Drafts usually range from 5 to 8.

Avoid introduction of twist or excessive tensions. Watch for rough surfaces on sliver cans, guides, rolls, aprons, and trumpets.

Roving and Spinning. Spinning practices normally used for natural and other synthetic fibers are applicable. Generally, ratch settings should be more open. Roving package densities should be low.

PROCESSING TIPS *from the* Editor's NOTEBOOK

Full-Fashioned Hosiery Mills

No Sludge In Trough. Formation of sludge in yarn lubricating troughs can be discouraged by means of gentle agitation of the solution. This can be done at no extra cost merely by reversing the normal position of a snapper in front of each trough. Fasten a length of spring steel (bale bands will do) to the snapper so that the tip of the piece dips into the trough. As the snappers rock, this agitating snapper sets up a mild disturbance in the trough—stirring sludge into solution again.

Case for Conditioners. On-frame conditioners for cone boxes have shown a 14% increase in production over full-fashioned knitters not so equipped in one hosiery mill where a comparative performance test was run. This mill uses 18-in. conditioning boxes so that pirns, as well as cones, can be creeled inside.

Gear-Crimp vs. Backwind Crimp. Better crepe effects are being obtained by one hosiery mill running only gear-crimped filament in preference to backwound crimp yarn. Gear-crimping is said to produce more crimps per inch and sharper, better defined crimps than highly twisted yarn. Consequently, more elasticity and superior setting are obtained in the hosiery.

Grocery and Supermarket Outlets. Though some members of the trade contend that rack sales in food shops hurt the dignity of the hosiery industry, few are ignoring the fact that sales can be stimulated by impulse buyers who cruise around food counters several times a week, as compared to the purposeful shopper who might make only one or two trips a month to clothing and specialty stores. Marketed in this way, hosiery competes actively with food for the consumer dollar—rather than with other clothing or hard goods items.

Packaging Due for Emphasis. The trend toward marketing full-fashioned hosiery in self-service stores is dictating major changes in hosiery packaging. Newest package and one with fascinating potential is Gotham's vacuum-packed. The hosiery is machine packed in heat-sealed plastic envelopes which keep the stockings at optimum humidity conditions until opened. This prevents deterioration of the finish during shelf-life of the package.

How to Design Your Own Plaiter

THERE ARE FOUR basic dimensions to be considered in the design of plaiters: maximum width of cloth; width of cloth receptacle; clearance beneath plaiter; and ceiling height of building. This article tells how to remove guesswork in building your own plaiter.

By WILLIAM O'KEEFE
Engineer
United Piece Dye Works

EXCLUSIVE

PLAITERS are used in most finishing plants for storing cloth in orderly folds between processes. Nearly 50 per cent of the plaiters installed are designed and constructed by plant personnel. They differ in detail and appearance only, because all plaiters have a common base for design.

There are only four basic dimensions to be considered in the design of a plaiter: the maximum width of cloth handled; the width of boxes or flat top carts; the clearance height beneath bottom of the plaiter; and the ceiling height of the building where the plaiter will be installed.

To the first dimension, the designer should add a few inches for side clearance of the cloth in the box or flat cart; more for poorly guided as well as dry cloth; and less for wet or guider-controlled cloth. The final result is equal to the desired length of rolls for the plaiter.

The pleat length is determined by the width of boxes or flat carts used. For box trucks, the pleat should be a few inches less than the truck width in order to prevent cloth from folding in at selvages. A fair choice of clearance is three inches on each side; i.e., 38-inch pleat for a 44-inch wide truck. If the flooring on which the truck stands is irregular or if there are unavoidable air currents which will make some irregularity in the descent of cloth from the plaiter, a further allowance for the length of pleat should be made. This dimension is not critical for flat cart loading.

A clearance of 72 to 78 inches between floor and bottom of plaiter is usually ample. Aside from necessary clearance for operators or vehicles, the difficulty of threading cloth through a high-mounted plaiter and the inconvenience of lubricating and repairing such a plaiter should be taken into consideration.

Ceiling heights vary widely and ceiling obstructions such as conduits, piping, and wiring must be considered. If drawings are made beforehand, the diagram will reveal the maximum limits of the vertical, inward, and outward swings. Analysis of the diagram will settle all questions of clearance.

Basic Mechanics. Plaiters incorporate two principle motions; one that pulls cloth through, and a reciprocating motion that makes the cloth drop in folds. The pulling element may consist of a simple roll, or multiple rolls, or nip rolls. The reciprocating cloth folder includes a set of draw rolls at the bottom of two swing arms or a delivery guide composed of two V-spaced boards forming a slot at the bottom. The flat sided V-boards are relatively inexpensive and serve well for plaiting wet and dry cloths of most varieties.

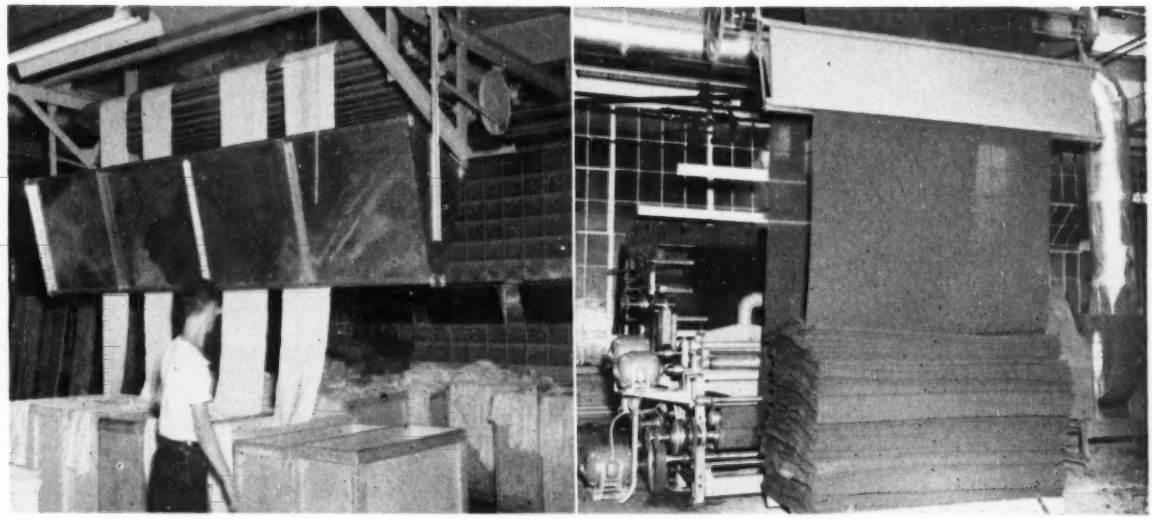
Length of Pleat. The ratio of plaiter strokes per minute to the cloth speed in feet per minute is a governing factor in establishing the length of pleat. Once this is set, machine speeds may be varied without altering the length of pleats. However, the quality of the fold will change if the stroke length changes to any great extent.

Stroke length multiplied by strokes per minute equals the plaiter tip speed, a value which should be a certain fraction of the cloth speed. This value may be called the "speed ratio." Since strokes per minute are already determined, the designer must next

TABLE 1.

Ratio of Pull Roll Turns To Crank Shaft Turns

ROLL DIAMETER	PLEAT LENGTH			
	36"	40"	44"	60"
6"	3.82	4.25	4.66	6.37
8"	2.87	3.19	3.50	4.78
10"	2.29	2.55	2.80	3.82
12"	1.91	2.12	2.33	3.18
16"	1.43	1.59	1.75	2.39
20"	1.14	1.27	1.40	1.91



50% OF PLAITERS in use are designed and constructed by plant personnel. Although all plaiters have a common base for design, they differ in detail and appearance.

select a stroke length. A given stroke length will serve for a wide range of speeds. It is rarely necessary to adjust stroke length, although many older type plaiters are constructed so as to allow considerable adjustment by means of slots.

In order to obtain an effective arrangement, various speed relationships should be examined. Table 1 lists ratios of crankshaft speed to pull roll speed for various pleat lengths and pull roll diameters.

In most instances, the reel shaft can drive the crank shaft at ratios up to 3 to 1 for belts and 6 to 1 for rollers or chains. Machines already incorporating a plaiter ordinarily are equipped with a slow speed shaft able to drive it. A belt or chain drive can then be used directly to the pull roll.

Separately Driven Plaiters. The most suitable motors with regard to cost, availability, and interchangeability for separately driven plaiters are 60-cycle a-c units, 1750 and 1160 rpm. A popular speed range for direct current motors is 400 to 1600 rpm. Table 2 shows the pull roll speed for various cloth speeds and pull roll diameters. To go from the aforementioned motor speeds down to the speeds given in this table requires a gear reducer or a two-step reduction in order to use suitable pulley ratios.

When determining the type of drive to use, consider these points:

(1) Worm gears are inclined to leak oil, can be incorporated as a unit, thereby saving time in erection. Also, they present a neat appearance. Their low efficiency is not of any importance in this application.

(2) Chain drives need lubrication and also spatter oil. If set between bearings, the shaft or bearing must be moved to change a worn sprocket.

(3) A continuous V-belt drive set between bearings requires shaft or bearing movement too.

(4) Flat belts are useful nearly everywhere on plaiter drives. They are easy to change without dismantling parts. Pulley width required for flat belts is not significantly greater than that required for a V-belt. Because of the inherent misalignment in the light structured plaiter, flat belts will probably stand the abuse best.

(5) Finer graduation of speed ratios are available for V-belt drives because of smaller pulley diameter increments.

TABLE 2.

Revolutions Per Minute Of Pull Roll

ROLL DIAMETER	CLOTH SPEED IN YARDS PER MINUTE							
	20	40	60	80	100	120	150	200
6"	38.2	76.5	115.0	153.0	191.0	229.0	287.0	382.0
8"	28.7	57.3	86.0	115.	143.	172.	215.	287.
10"	22.9	45.9	68.8	91.7	115.	138.	172.	229.
12"	19.1	38.2	57.3	76.4	95.5	115.	143.	191.
16"	14.3	28.7	43.0	57.3	71.6	86.0	108.	143.
20"	11.5	22.9	34.4	45.9	57.3	68.8	86.0	115.
30"	7.6	15.3	22.9	30.4	38.2	45.9	57.4	76.5

Bill of Materials. Bolted, welded, or cast iron frames for plaiters and combinations thereof are suitable, although welded structures are more rigid than bolted ones.

Pull rod bearings can be bronze bushings, needle, or roller bearings. Cotter pins are sufficient to hold the pull rods in place. Don't use adjustable length pull rods. Both pull rods must be the same length. Crank arms or plates must be accurately keyed to the crank shaft in order to hold the two units in phase. The crank shaft

FIG. A

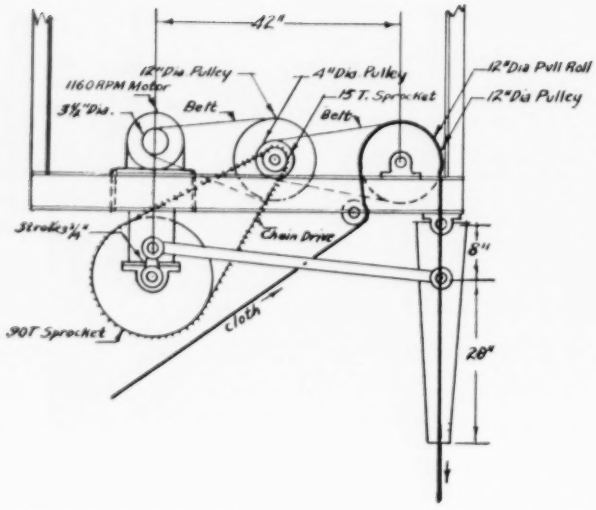


FIG. B

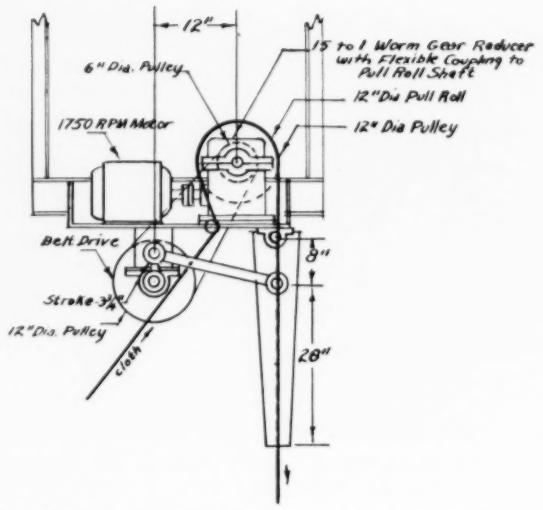


FIG. A. A plaiter drive employing a secondary drive shaft is shown here. If a 3 to 1 reduction to pull roll is used, the secondary drive shaft speeds will be three times the speeds tabulated in Table 2. A belt drive is suitable between motor and secondary drive shaft. However, the drive to the crankshaft must be at a high ratio, making mandatory the use of a chain drive. In order to make the struts shorter, the crankshaft drive is set inside the frame and above the path of cloth. This location makes lubrication, maintenance, and adjustments difficult because of the relative inaccessibility of the chain and sprockets. For this reason, the author prefers to have the crank shaft driven by the pull roll.

FIG. B. Here is a view of a separately driven plaiter, powered by a worm gear reducer at about 120 yards per minute. Overhead support of the plaiter structure is used. The simplest drive consists of a motor connected to a worm gear reducer which drives the pull roll by means of a flexible coupling. The reducer and motor are rigidly attached to the pull roll supports in order to reduce abuses of the coupling. Different speed ratios can be obtained by changing gears within most commercially available speed reducers. A more convenient method for changing speeds is to use a belt drive between motor and reducer, changing pulleys as required. Variable speed drives are generally an extravagance on plaiters.

should be heavy enough to withstand twisting. If desired, pull rods can be bent to shorten the struts.

Sides of swing box plaiters are wood, plywood, fiberboard, and occasionally, sheet metal. Sides are extended quite far up, such construction producing little more inertia than ones with narrow boards at the bottom of the swing arms.

One kind of pull roll consists of a steel shaft with cast iron or bronze spiders and wood slats covered with cloth or tape of a good frictional character. There are some steel tubed, rubber-covered rolls. A few rolls are available in solid wood construction. The first type mentioned is least expensive to build and maintain.

Be careful in tacking on cloth covering. Tacks may work loose and ruin many yards of fabric before the trouble is detected.

Plaiter Speed vs.

ALL FORCES originating in the reciprocating motion of a plaiter are the most difficult to contend with. Imagine a plaiter swing box which has been detached from its pull rods and given a push. It will oscillate like a pendulum, having a frequency of oscillation depending principally on its mass and distribution of weight. If the running speed of the plaiter coincides with its natural frequency of oscillation, then driving forces amount to a minimum since the only work to be done is that of pushing cloth and counteracting air resistance.

A plaiter pull strut approaches harmonic motion because the crank pin has constant speed and the pull rod is much longer than the throw. At all points of the swing, the force in the pull rod will be smallest when the aforementioned frequencies coincide. Is this practical? Most box plaiters have a 30 to 40 cycle per minute frequency. If the desired pleat length is 40 inches, the cloth speed needed for resonance is from 67 to 88 yards per minute. This is within the range of most machines, although some run faster.

To design a frequency into the plaiter, the following equation is used:

$$\text{Cycles per Minute} = \frac{9.55}{\sqrt{\frac{I_o}{W l_o}}}$$

where: I_o = moment of inertia about the pivot in foot units
W = weight
l_o = distance in feet from pivot to center of gravity of swing box

Space is inadequate for further reasoning on this subject, but here are some salient pointers:

(1) Unless the pleat length is increased, the practical limit for resonant design is about 150 yards per minute.

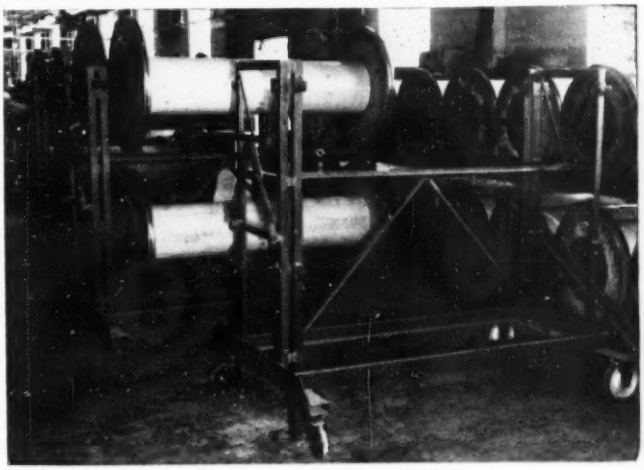
(2) It is difficult to increase the frequency of a given design by more than a few per cent, and this can be accomplished only by adding weights to the plaiter box.

Mobile Beam Storage Racks Save Steps, Conserve Space

In one large rayon mill, warp beam storage trucks were made to remove beams lying on the floor and to provide a convenient means to eliminate the beam transportation problem which existed. The storage trucks are on retractable wheels, as shown in the accompanying photo.

Formerly, as the slasher tender emptied the section beams, the beams were placed on the floor around the slasher. In making new section beams, the warper tender had to make several trips to retrieve the empty section beams; by chain hoist on overhead rail, or by mobile hydraulic beam jack.

Now as the section beams leave the slasher, they are placed in the beam storage rack so that only one trip is necessary to return as many as six section beams to the warper.



Also, the racks provide convenient storage in a small area, neat appearance, and far greater safety by keeping beams off the floor and in order. There is less temptation for someone to try lifting one of the beams manually, perhaps resulting in back strain or injury.

Some extra effort by the designer to find a better way for fastening cloth on pull rolls is time well spent.

The most common diameters for pull rolls are in the range of 6 to 24 inches. If a roll won't pull properly, here are a few remedies:

(1) Set a small roll below the main pull roll so that the angle of contact will be increased.

(2) Use a weighted nip roll riding on the pull roll (pull roll must be well-aligned and true).

(3) Install a second pull roll positively driven and adjacent to the first.

(4) Try a larger diameter pull roll or change the kind of covering.

The need for pull rolls on the ends of swing arms is very seldom encountered except for saturated cloth or extremely light weight goods. The lower pull roll is driven. Recommended design calls for suspension of the swing arms from the main pull roll shaft. A flat or V-belt of sectional type is used to drive the roll directly from the main pull roll shaft. Bottom rolls are usually fabricated from brass or steel tubing and are lapped with cloth.

Some plaiters can be integrated with the delivery end of the machine serviced by it. Others have to be suspended from roof trusses or erected on floor supports. If floor supports are unavoidably necessary, install them as far back as possible so they won't interfere with box truck handling.

Natural Frequency

(3) To obtain high natural frequencies, the swing box must be short and have its weight concentrated near the pivot. This calls for very light, fragile projections.

(4) If a swing box is designed for a high natural frequency, added weights quickly lower the frequency, but the light structure may not withstand the added weight.

Suppose that speed is variable. Is a resonant design plaiter superior to a common one? Yes. The force in the pull rods at extreme swing is approximately:

$$\left(\frac{I_o (S)^2 C}{911 b^3}\right)\left(1 + \frac{C}{P}\right) - \frac{W1_o \tan\theta}{b}$$

where:

S = revolutions per minute
b = distance between pivot and pull rod link to plaiter box
C = throw of crank
p = length of pull rod
θ = angle formed by the plaiter box with the vertical

The rpm of the crank shaft is already fixed and the ratio of c/b has certain limits. The best way to keep the force small is to lower I_o, which is what resonant designing actually does. Shortening a swing box lessens the value I_o although c/b must be increased to get the tip speed ratio originally sought. The net effect will be a decrease in pull rod maximum force.

From the foregoing, a designer can see that common remedies for weak plaiters, such as putting heavy parts near the swing box ends, may really aggravate the original defect.

Struts should be set low. However, the lower the strut is, the larger is the throw and the longer is the crank. For high speed work, use light pull rods. The pull rod must be accelerated twice per cycle from dead stop to the linear speed on the crank pin. The smaller the mass of the pull rod, the smaller the forces of the crank pin.

In the socialistic attacks on the electric power industry we find that

It CAN Happen Here —

By FRANK M. WILKES
President
Southwestern Gas & Electric Co.

SOON AFTER the turn of the century, a small group of English pseudo-intellectuals, infected with the doctrines of Karl Marx, formed what was known as the Fabian Society. Their purpose was to destroy England's long-time free enterprise system, and to replace it with socialism and its running mate, communism.

The society was named after a famous Roman General, Quintus Fabius, who was able to defeat the invading hordes of the Carthaginians under their great general, Hannibal, without actually meeting them in open battle, but with a policy of attacking behind their lines, cutting off their supplies, and weakening them at their base.

Following a similar undercover policy of boring-from-within, the Fabian Society in the last fifty years has been undermining the great British empire, which once boasted that the sun never set on its possessions.

Soon after the forming of the Fabian Society, similar organizations were started in this country. They adopted the same kind of tactics, designed for the overthrow of our American way of life.

You may say, "It can't happen here!" But the answer is that it *is* happening here, and already the Fabian tactics have succeeded in undermining a considerable portion of our free enterprise system.

To realize what goes on here, one must first understand that communism and socialism are alike in their basic concept that government ownership should supplant our profit system.

Actually, government in any business is socialism; and unless the American people wake up to this simple fact, the things that made America great over the last two hundred years will be lost in the lifetime of those now of age in this country.

The initial target for the boring-from-within tactics of the socialists and the "pinks" of this country has been the electric utility industry. Despite its outstanding performance—despite the fact that it is the only major industry furnishing a better product than was available ten, fifteen, and twenty years ago and selling it for less money—the electric utility industry has become the primary object of our Fabians in a long-range campaign to do away with the private ownership of all business and industry in this country.

Government Enters the Utility Field. We might say it started as an aftermath of World War I, in the disposal of one of the Federal Government's belated war-time developments, its Muscle Shoals nitrate plant on the Tennessee River in Alabama, together with a dam and a steam electric generating plant.

Many fair offers for purchase of the property were rejected, and several bills providing for government ownership and operation were killed by Congress. But soon after the coming of the New Deal, in 1933, a new bill was introduced in Washington authorizing the completion of Muscle Shoals and providing for "flood control, navigation and for other purposes" on the Tennessee River.

From this bill, which did not claim "public power" as its principal purpose, has grown the Tennessee Valley Authority, which now dominates the economic life of the area several times as large as that contemplated in the original bill. It is now purely a power project, providing little or no flood control, or navigation. By the middle of 1956, it will be producing more than two-thirds of its total output of energy by steam power. It has completely destroyed every private electric utility company in the area served by it, and is now spreading into the Cumberland Valley over the protests of the citizens of that Valley, and is endeavoring to take over more and more of the property belonging to private companies in neighboring areas.

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And It HAS!

No. 8 of a series on problems of business and government

MR. WILKES has been connected with the electrical industry continuously since his graduation from the University of Kentucky in 1908, with the exception of a period of military service during World War I. In 1919 he became commercial manager of the Arkansas Power & Light Co., and ten years later he was vice-president and general manager. As president of the Southwestern Gas & Electric Co. for the last ten years, he has been one of the recognized leading spokesmen for the electric power industry in its efforts to ward off the socialization of this great industry.

Immediately following the passage of the Tennessee Valley Authority Act, in May 1933, Congressman John Rankin of Mississippi introduced a bill providing for nine TVAs, which would cover the entire United States, and which if it had been passed would have quickly and efficiently completed the socialization of the electric industry in this country. Congress, however, was beginning to wake up to the fact that the TVA had little or no intention of fulfilling its constitutional purposes, but was aimed directly at socialization of this country. The Rankin bill died in the committee.

In the years that followed, the Missouri Valley Authority, the Columbia Valley Authority, the Arkansas Valley Authority, and other authority bills have all met the same fate. However, efforts of socialization to destroy the industry did not stop with this rebuff. Through various relief agencies, such as the Public Works Agency, Works Progress Administration, Federal Works Agency, and other alphabetical agencies, the government proposed and in many instances made loans and grants to the states for the development of several rivers as "make-work" plans to help alleviate the depression.

Several of the states took advantage of this offer, among them Nebraska, where the Nebraska Power Authority has now taken over all of the private electric industry in that state; and the Lower Colorado River Authority, with headquarters in Austin, Texas, where all electric utilities in nineteen counties have been taken over by the state authority. Also, this is true in the Pacific Northwest, with the development of Bonneville Power Administration, and various multiple purpose projects of the Bureau of Reclamation.

Perversion of the REA. In 1936 Congress passed what I consider one of the most constructive pieces of legislation ever placed on our statute books. This was the Rural Electrification Act of 1936. It represented a real desire on the part of Congress to assist rural areas in obtaining electric service. Its passage was not opposed by any of the electric utilities. It was very carefully drawn in the effort to eliminate any chance of perversion by the borers-from-within. And during the first three years of the REA, great strides were made not only in rural electrification but, also, in cooperation between the electric utility industry and the rural electric cooperatives.

For some reason it took the American Fabians three years to realize what a potentially effective tool was at hand in the rural electrification movement. But when they did wake up, they were not long in acting. Suddenly on June 30, 1939, by presidential edict, the Rural Electrification Administration as such ceased to be a separate agency of the government. It was transferred to the Department of Agriculture and was placed in charge of men taken from other bureaus. From that time on REA was just another satellite operation for the socialization of this country, covering up its activities in this respect by legitimate and worthwhile loans to rural electric cooperatives formed under the various state laws.

It was about the time REA commenced to invade the territories and activities of private electric utilities that we of the industry began to realize that there was a master plan somewhere for all these operations. After diligent search we found the blue

print, and we have it in our possession today in the form of the original and photostatic copies of an article in the March 5, 1927 issue of The New Leader entitled "How Shall the Socialists Attack the Problem of Winning the Ultimate Abolition of the Profit System?"

The author of that article recommends to his fellow socialists that they introduce young men into government bureaus where "one good man with his eyes, ears and wits about him, inside the department . . . can do more to perfect the technique of control over industry than a hundred men outside." He goes on to summarize the various methods which had been used in the effort to gain control of the electric utility industry—recommending as most effective the setting up of power authorities such as Muscle Shoals, Boulder Dam, and on the St. Lawrence. The article closed by stating:

"Our long-time aim is the abolition of the profit system for private use. Our strategy is to make and take every opportunity to prove that it works. We must force our experts on agriculture, trusts, coal, power, subways, housing, milk, etc., to tell us correctly what the next steps are, and then take them and identify ourselves with their success."

Having discovered a copy of this blue print, we immediately went in search of the author. We found him following out his own blue print exactly. His location was in the Department of the Interior. *He was, in fact, head of the Power Planning Division of that bureau.*

The electric utility industry suddenly and violently woke up to the situation. We already had two strikes on us from the activities of the socialists of this country. Our natural allies, the rural electric cooperatives, had been taken over and were being exploited by the federal bureaus in Washington. Super cooperatives had been formed in 1941 to build heavy transmission lines and generating plants to serve not only electric cooperatives but every power industry. Despite wartime copper limitation orders, the REA went blithely on, duplicating our existing lines and wasting tons of the scarce metal.

Finally, the activities of the REA became the subject of a congressional investigation, as a result of which many of its top men were fired and there was a complete reorganization of this agency. Claude R. Wickard was induced to step down from the position of Secretary of Agriculture to take charge as Administrator of REA. His good name was necessary to remove the stigma left by the preceding administration.

Perversion of Flood Control. In 1944, what was known as the Omnibus Flood Control Bill of 1944 was enacted into law by Congress, providing for a sales agent for the power and energy incidentally produced at multiple purpose projects constructed by federal funds. The bill named the Secretary of the Interior as such sales agent. Obviously, this was most disturbing to the utility companies, and a representative was selected to appear before the Senate Committee (the author of this article was so selected) to urge the need of suitable protection for both the private electric companies and the public.

The committee was definitely convinced of the necessity for such protection and, in reporting the bill out with a suitable amendment, made this statement:

> "The committee desires an amendment which provides a convenient and practical method of disposing of power at projects under the control of the War Department without setting up a public power trust which would be unduly competitive with established private power companies."

As the bill was amended, the utility companies were well satisfied, since it apparently gave protection against willful construction of transmission lines by the Department of the Interior; against its using money derived from the sale of power and energy for any purpose except to retire the power portion of the investment in multiple purpose projects; and against the expenditure of new funds without specific appropriation by and approval of the Congress. Further, the Act was clearly so worded as to protect the industry against the acquisition by the Department of the Interior of any additional power and energy, whether produced by steam or otherwise. At least, we thought it did.

Imagine the surprise of the companies in the Southwest when in 1946 the Southwestern Power Administration submitted a so-called "Comprehensive Plan" which requested appropriation of $223,000,000 for the construction of some 18,000 miles of high tension transmission lines, duplicating wholly or in part the high voltage lines of the private companies in the six-state Southwest Area—and, still worse, asking for the construction of 850,000 kilowatts of steam generating capacity located at various points in the Southwest Area.

Of course, the private companies immediately pointed out to the committee of Congress that this was not the intent of the Flood Control Act of 1944. Congress was sympathetic to our position and denied any money for steam plants—though a small appropriation was made to tie Norfolk Dam, on the Norfolk River in northern Arkansas, to Denison Dam on the Red River.

In subsequent years the Department of the Interior (Southwestern Power Administration) again and again made application to the Congress for funds to build transmission lines in the Southwest, but no funds were forthcoming.

However, it became evident in time that the Blue Print Maker had worked out a new plan to circumvent the will of Congress. The Rural Electrification Act of 1936 set up a blank check to the credit of the Administrator for the purpose of making loans for rural electrification purposes to bring "electric service to persons in rural areas not receiving central station service." No further action by Congress was required to make this money available for construction of generating stations, transmission lines, etc. And of the total appropriations under the Act up to 1951, more than a billion dollars remained on the shelf, subject to the whims of the Administrator of the REA.

Under the Flood Control Act of 1944, the Depart-

Effect of Salaries Offered Textile School Graduates

Due to shortage of textile school graduates, competition has been keen for their services and the starting salaries correspondingly high so that in some instances the grads are offered more as mill beginners than their textile school instructors are paid, causing some unrest among the teachers who feel they should also make themselves available to industry. The pay of new graduates in some instances also approaches closely the earnings of key men and white collar mill employees who have proved themselves valuable but have not been recognized salary-wise. Observers look for the lid to blow off if the trend continues or if corrections are not made by the industry.

ment of the Interior had been forbidden any sums for the construction of generating plants and had been denied the right to construct transmission lines at any points where there were existing utilities. But under a new "continuing fund" authorization (set up for "use in emergencies and to provide for continuity of service and to provide for payments for rental of transmission lines and purchase of electric service") the Department of the Interior (SPA) and the Department of Agriculture (REA) got together and not only planned but *contracted for* three generating plants in Missouri, one in Oklahoma and one in Arkansas, whereby super cooperatives or G&T cooperatives were formed with three or more distribution cooperatives as members. Similar plants for the entire country were placed in the planning stage.

These super cooperatives would borrow money, ranging from $10,000,000 to $20,000,000 each, for the purpose of constructing a steam generating plant and several thousand miles of high tension transmission lines. It was provided that Interior (SPA) would purchase the power under a 40-year contract; and at the end of the contract SPA would own the transmission lines by payment of $10.

Space does not permit of giving all the frightening details of the plan. Suffice to say that, once the operation had been started, it would not be necessary for the Department of the Interior to ever come back to Congress for an appropriation, and generating plants and transmission lines could be constructed all over the United States by the REA and the output of the plants and, ultimately, the transmisison lines, sold to the Department of Interior. Had this scheme prevailed, it could easily have resulted in the destruction of the entire electric utility industry.

Legal action was brought by the utility companies in the Southwest to ward off their threatened destruction. In one case the ten companies in Missouri brought suit in the District Court of the District of Columbia to nullify the contracts entered into between SPA and REA and the G&T cooperatives. (As this is written, the case is now awaiting decision by that court).

In another case, four companies serving Arkansas intervened to request denial of a certificate which the super cooperative would require from the Arkansas Public Service Commission before starting construction of either generating plant or transmission lines. The Commission's two-to-one decision to grant the certificate was carried through the courts; and finally, in a decision rendered by the Arkansas Supreme Court on March 30, 1953, the case was closed in favor of the utility companies and the alliance between Interior and REA in Washington was outlawed.

During the period while these cases were pending, negotiations were entered into between SPA and some of the companies in the Southwest, resulting in two contracts for the purchase of a portion of the power produced at multiple purpose projects by private companies. A third contract which had been negotiated between SPA and a group of twelve companies, covering all the remaining area of the Southwest, went to the Secretary of the Interior on January 11, 1952; and on January 19, 1953, more than a year later and just one day before the inauguration, the Secretary returned the contract to the Administrator of SPA with a very vitrolic attack on all its provisions.

There is now a general feeling that under the new administration there will be an opportunity to work out an honest, practical solution of the public power-private power feud, not only in the Southwest but all over the United States—to the benefit of the rural electric cooperatives, to the private electric utility companies, their customers and stockholders, and above all, to the relief of the American taxpayer.

Negotiations are now being resumed between the Department and its Administrator, on the one hand, and the companies in the Southwest, on the other, which have great promise. It is hoped that a solution of the problem will be accomplished very quickly, probably by late summer or early fall.

In a bill he introduced last February for the creation of "A Commission to Study Government Competition with Private Taxpaying Enterprise," Congressman Fred E. Busbey named forty federal agencies which are more or less involved in competition with private industry. His statement included a quotation from a speech delivered by Senator Benjamin Harvey Hill before the Senate on March 27, 1878, which said in part:

> "I do not dread these (private) corporations as instruments of power to destroy this country because there are a thousand agencies which can regulate, restrain and control them. But there is a corporation we may all dread. That corporation is the Federal Government. From the aggression of this corporation there can be no safety, if it is allowed to go beyond the bounds, the well defined limits of its power."

America has gone far to the left toward government ownership. Let us hope and pray that it is not too late for us to return to the principles of our fathers.

ASSOCIATION OFFICERS. Left to right: Retiring president Charles A. Gibson of Calhoun Mills and F. W. Poe Mfg. Co.; newly elected president Marshall C. Stone of Pacolet Mfg. Co.; new vice-president Ellison S. McKissick of Alice Mfg. Co.; and executive vice-president John Cauthen.

EVERYONE PARTICIPATED in the group singing before the fish fry on the beach in front of The Cloister Beach Club. Graham Jackson of Atlanta provided the music and the South Carolina mill executives and their ladies provided the vocal accompaniment. The sand was so deep that some of the ladies doffed their shoes. At least one gent was seen to follow suit.

"We've Got the Ball" -- Gibson

South Carolina textile manufacturers meet in Sea Island

Staff Report

"I AM SURE that the challenge of the future in our industry is going to be in what kind of a job we are doing, especially in the fields of industrial and public relations," C. A. Gibson, retiring president of the South Carolina Textile Manufacturers Association, told members of the organization while rendering his report at the first business session of the annual convention at The Cloister in Sea Island, Ga., May 28-30.

Reminding the mill executives that for many years they have been asking for economic as well as personal freedom, the head of Calhoun Mills and F. W. Poe Mfg. Co. said: "We have now been given the ball to run with, and the people of this country are waiting to see what top management is going to do with it."

The real challenge is going to be whether mill managers are smart enough and men enough to meet the responsibilities that they assume when they demand economic and personal freedom, he asserted. In Mr. Gibson's opinion these responsibilities are:

(1) To furnish products which mill customers and the public want at a price they can pay, and to assist in community, church, civic, and personal affairs;

(2) To provide steady employment for mill personnel at fair pay and under pleasant working conditions;

(3) To operate the mills so that a reasonable profit can be made and a reasonable dividend can be paid to the stockholders and owners.

By meeting these responsibilities, Mr. Gibson said, "we can set a pattern that will show we are true Americans trying to keep the United States the greatest country in the world in which to live."

Also on the agenda for the Friday morning business session were: "off-the-record" remarks by C. A. Johnson of Republic Mills; an inspirational address by Dr. Kenneth McFarland of Topeka, Kansas, educational consultant for General Motors Corp.; and annual meeting of the J. E. Sirrine Textile Foundation through which South Carolina textile manufacturers have contributed about a million dollars to foster textile education at Clemson College.

Accomplishments at Clemson. For the fourth year the Clemson College School of Textiles had the largest enrollment of any textile school, with an average of 592 students for the two semesters, Dean Hugh M. Brown reported.

This is approximately one-fourth of the enrollment of all ten textile schools, he said. There were 96 graduates in February and June, which with the August class will make the total approximately 110 for the year.

The following were developed by the Clemson textile school staff during the past year:

(1) A device for use with Pneumafil to indicate when an end is down on spinning frames or to stop roving frames when an end is down.

(2) A picker lap meter suitable for permanent mounting on pickers to show instantaneous weight of lap at all times.

(3) Flat bundle tester having rate of loading and adjustable gauge length. (For description see page 197 of this issue.)

(4) A leno device not using doups (TEXTILE INDUSTRIES for May, 1953, page 133) by which full turn leno (or even more than full turn) may be intermixed by pick with ordinary leno or plain weaving.

Elected to fill vacancies on the Foundation's board of trustees were Joseph J. Lyons of Orr Mills, and Ellison S. McKissick of Alice Mfg. Co. George M. Wright of Abbeville, S. C., retired mill official, serves as president.

Recreation. Friday afternoon and evening were set aside for recreation for the mill men and their ladies.

For golfing enthusiasts there was a golf tournament. John B. Harris, Jr., of Greenwood Mills and Bob Smith of M. Lowenstein were low score and low net winners respectively.

For the ladies a luncheon was served, followed by a fashion show under the direction of Miss Helen Boyd of New York, fashion expert of Deering, Milliken Co.

"Fun for all" was the order of the evening. A fish fry and barbecue supper on the beach in front of The Cloister Beach Club was followed by dancing and special entertainment on the patio of the beach club. Reports were "A good time was had by all."

Industry Problems Created by Fiat. The degree to which the Eisenhower administration succeeds in resolving the basic issue in governmental policy will have a direct bearing on how major problems confronting the textile industry will be ironed out, Robert C. Jackson, executive vice-president of the American Cotton Manufacturers Institute, said in the principal address on Saturday morning. The basic issue, he asserted, "is a question which arises from a long-standing difference of opinion as to what the role of government should be—whether the concept of government is that of master of the people or servant of the people."

Discussing developments which relate specifically to the textile industry, Mr. Jackson observed that "time after time we have been impressed by the fact that we have been forced into controversies which were the aftermath of arbitrary actions by the administrators of a given law or policy, situations in which we encountered government by administrative fiat, where individuals in authority made personal decisions at variance with the original intent of the people and the Congress."

This is the "crux" of the court challenge brought by 209 mills against the Secretary of Labor concerning application of the Walsh-Healey public contracts act, he explained. He predicted the case would come up for formal trial during the fall, but that it would be appealed regardless of which side wins.

Following Mr. Jackson's address, chairman of the various committees of the Association rendered reports of their activities. Here are some of the facts presented:

Personnel Division. A 12 per cent increase in membership of this division during the year was reported by Chairman E. W. "Snow" Marshall of Fairforest Div., Reeves Bros., Inc., Spartanburg, S. C. The newly created Expansion Committee was said to have been responsible for this.

Progress in accident prevention was attributed to a safety contest being conducted by this division. 105 mills are participating. At the end of the first six months of the contest, 26 mills reported perfect records without an injury. Frequency rate was 3.24.

Cotton Buyers Division. Results of a cotton ginning study conducted by the members of the division were reported by John C. Bell of Inman and Riverdale Mills. Lack of training of operatives at the gins was cited as the principal cause for improper ginning. Some of the complaints with cottons received at the mills are neppiness, damage to fibers by over-drying, over-ginning, seed particles in lint, short fibers in lint, and spots of oil and grease, all of which can be remedied by better ginning practices.

The ginning committee recommended that:

(1) Another test similar to the 17-mill test (see TEXTILE INDUSTRIES for October, 1952, page 111) be made; also that in making this test better control of ginning of test lots be had.

(2) Very intensive research be made on the performance of various types of lint cleaners which are on the market.

Legislative Committee. Chairman H. B. Carlisle of Pacific Mills at Lyman, S. C., reported that during the past year the association had among other things,

(1) Sponsored state legislation to reduce capital stock tax. Tax on capital stock and paid-in surplus was reduced from 2 mills to 1 mill. This should save textile mills about $500,000 annually.

(2) Fought successfully an increase of the weekly benefits of workman's compensation.

(3) Sponsored a new law to permit mills to operate on Sunday if under government contract.

Officers Elected. Marshall C. Stone of Pacolet Mfg. Co. was elected president of the Association, succeeding Mr. Gibson. New vice-president is Mr. McKissick; John Cauthen was re-elected executive vice-president.

Walter S. Montgomery of Spartan Mills, Elliott W. Springs of The Springs Cotton Mills, and Stanley W. Converse of Clifton Mfg. Co., were elected directors for three-year terms. George S. McElroy of Owens-Corning Fiberglas Corp. was named to fill Mr. McKissick's unexpired term.

Dyeing Type 42 Orlon Staple

Type 42 Orlon has several advantages over its predecessor, Type 41, where dyeing properties are concerned.

TYPE 42 "Orlon" acrylic staple, the only type now being produced (manufacture of Type 41 was discontinued during March of this year), has several advantages over its predecessor where dyeing properties are concerned:

(1) Very little change in dyeability on heating—better uniformity;

(2) More dyeable at lower temperatures with acid dyes;

(3) Better light fastness with acid dyes;

(4) Wider range of acid dyes applicable at 212 F;

(5) Brighter shades with acid dyes without carriers;

(6) Much better light fastness with dispersed dyes;

(7) Easier removal of tints.

Fundamentally, the dyeing processes for Type 42 are the same as for Type 41 Orlon.

Applying Acid Dyes by Copper Ion Method. When dyeing piece goods at boil, control dyeing by starting reduction of copper at a lower temperature with stepwise additions of hydroxylammonium sulfate. If absorption of copper and dye must be retarded further, add sulfuric acid and surface active agents or sulfonated dyeing assistants. Use high millivolt conditions where redox potential measurements are employed.

A careful selection of dyes on the basis of compatible dyeing rates must still be made.

In addition to prospects for good light fastness, acid dyes on Type 42 have considerably better fastness to perspiration and staining on washing. Available information indicates that pressure dyeing is required to obtain optimum fastness to cross-dyeing.

Regarding application of acid dyes in circulating machines, especially in raw stock dyeing equipment, Type 42 staple shrinks more and packs to a considerably greater extent. Unlevel stock dyeings result at high temperatures unless the rate of copper and dye absorption is slowed down. There is a greater tendency to pack and pull away from sides of machine, causing channeling. Level application of copper and dye must be accomplished before excessive shrinkage and packing effect takes place. Commercially acceptable dyeings in all but a few shades have been produced.

Level absorption of copper is obtained by use of high voltage redox potential values, slower rise in temperature, dyeing at lower pH by addition of sulfuric acid, and use of sulfonated dyeing assistants and non-ionic surfactants. Dyeing temperature of 245 F should not be exceeded.

Dyeing with Acetate or Dispersed Dyes. Depth of shade is limited. Dyeing assistants such as the phenylphenols help to build deep shades but adversely affect light fastness. Probably only light shades will be dyed with acetate dyes.

At high temperatures under pressure acetate colors are absorbed at faster rate to give medium to heavy shades, but exhaustion efficiency is not great enough to avoid filtration in package yarn dyeing at this concentration. Problem being studied.

Dispersed dyes are applied in usual manner with synthetic detergent or soap. Dye one hour or more at 208 - 212 F at atmospheric pressure or for one hour at raised temperatures under pressure.

Dyeing with Basic Colors. Apply basic dyes at boil or high temperature under pressure with small amount of acetic acid and sodium acetate. Medium shades can be obtained at the boil in a reasonable time. Under pressure, much deeper shades are possible.

Piece Dyeing of Knit Goods. Level dyeings having very good fastness properties on half-hose and cut-and-sew sweaters made of Type 42 Orlon can be made in paddle machines and rotary machines, resulting in garments possessing very desirable handle and loft.

Acetate dyes in light shades provide very good light fastness and, where added brightness is desired, the new lightfast yellow and red basic dyes can be used either as self shades or in mixtures with the acetate types. Heavy shades of dark navy and black are only shades that need be applied with acid colors, since medium shades dyed with basic colors will probably provide adequate fastness.

Knit jersey fabrics of 100% Type 42 Orlon staple can be dyed with acetate, basic, and acid colors in dye becks or reel machines.

Dyeing Woven Fabrics. For light shades, acetate colors give adequate fastness to light; for light to medium shade range, use mixtures of dispersed or acetate and basic dyes.

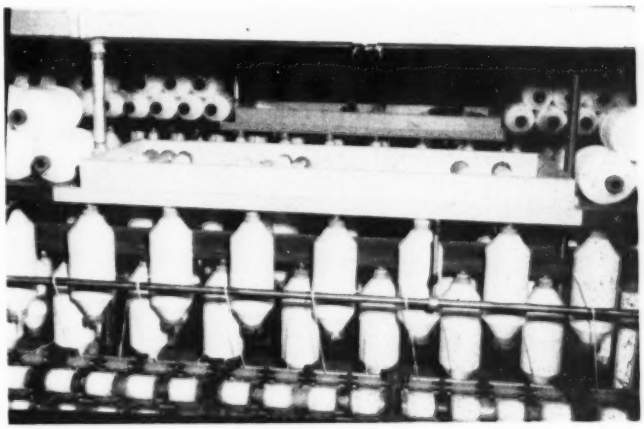
To alleviate rope marking in beck dyeing, apply 1.0% Avitex R in beck at 140 F for 15 min. Extract, frame dry, overfeeding 5% and pulling out 2.0 to 3.0% over wet width at 270 F for 1¼ min.

From paper delivered by Dr. P. L. Meunier of the Du Pont Co. before the Wilmington, Del., meeting of the Philadelphia Section, AATCC.

A Way to Prevent Roving Break-Backs

One of the fixers in the spinning room of Cone Mills' Edna Plant, Reidsville, N. C., decided to do something about ends down on the spinning frame caused by loose ends of roving from empty bobbins on top of the creel being blown by the traveling cleaners and choking roving hanger clips.

His solution was simple but effective. He designed a wooden tray to fit the top of the creel, as a receptacle for empty roving bobbins, and the problem was licked. The frame of the tray is made of ¾" x 4" boards; its sides may be of any length desired.



The tray in the illustration is made to fit between the supports of the traveling cleaner rail. The width is of course determined by the width of the creel. The tray has no bottom —the top of the creel serves as the bottom of the tray.

At the Edna Plant, trays are placed in the middle and at the end of each frame, and are painted bright yellow for easy visibility.

South Has Over Half of Full-Fashioned Knitting Machines

Over half of the 9,469 full-fashioned knitting machines in place at the end of 1952 were located in the South, according to Textile Machine Works' recently published Statistical Survey covering the full-fashioned hosiery knitting industry for the year 1952. The equipment in these mills was also reported to be more modern than that found in other areas of the country.

Some other interesting facts brought out in the report:

(1) There were 1,476 fewer machines at the end of 1952 than at the end of 1951.

(2) There were 799 mills in the country, a drop of 20 mills during the year. 72.5% of these operate 10 machines or less. 86 mills were established during 1952: 49 in Pennsylvania; 8 in New England, New York, and New Jersey; 25 in the South, and 4 in the West.

(3) During the 20-year period from 1932 to 1952 there has been comparatively little change in the number of mills in Pennsylvania, the West, and the New England States. The proportion of mills in North Carolina and the remainder of the South has risen to 37.1% from 20% in 1932.

(4) Average age of machines is 10.15 years, with 42.2% being five years old or less.

(5) Almost 25% of machine sections in place are 60 gauge or finer as compared to 16.1% in 1951. 344 of the 799 mills had 60 gauge or finer equipment.

(6) 1952 profits in general might be half of 1951 (too few profit reports had been received to draw conclusions when survey went to press).

(7) World totals are: 1,748 mills; 19,635 machines; 461,119 machine sections.

Heat treat on pin tenter at 325-350 F for 20 sec., overfeeding 5.0 to 8.0% at about 4% under dry width of fabric.

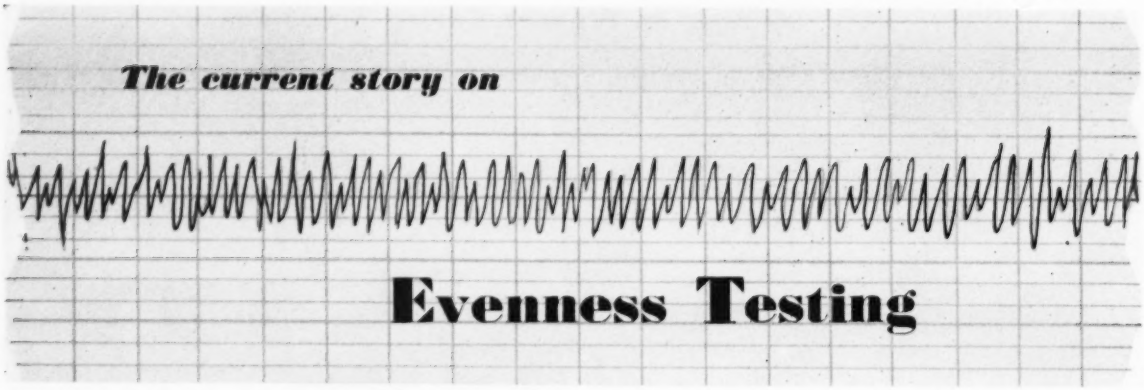
Dyeing Blends with Rayon or Cotton. For light shades, dispersed colors and direct dyes have been used, employing one-bath method for simultaneous dyeing of two components.

Medium shades can also be dyed this way; however, for brown shades use Du Pont Basic Yellow OL and Du Pont Basic Red 4G with the acetate and direct colors.

Two-bath procedure is recommended for union dyeing in deep shades. Orlon is dyed first with either acid colors by copper ion method or with selected basic and dispersed types. Scour with sequestering agent to remove copper from rayon when cuprous ion method employed. Rayon is then dyed with direct colors selected on basis of minimum staining on Orlon.

Dyeing Blends with Wool. Apply basic dyes to Orlon and acid dyes to wool in one-bath procedure. Dye at full boil or 210-212 F with overhead steam in dye beck for one or two or more hours.

Level dyeing acid colors, neutral dyeing acid colors, and chrome colors are recommended for wool component. Colors of premetallized acid class should not be used at very low pH with sulfuric acid because undesirable shade change occurs with some basic dyes.



By PAUL W. MULLEN
Camden, S. C.

EXCLUSIVE

VARIATION in uniformity is an important characteristic of sliver, roving, and yarn since an even sliver may be expected to give an even roving and, in turn, an even yarn which will be stronger, can be more efficiently spun, and can be woven with fewer seconds attributable to breaks or warp streaks. Much of the variation in yarn cross sectional weight originates in the early stages of the mill process, particularly in the drawing frames, and it is carried forward and amplified by each drafting process through spinning.

A pressing need of mill quality control men has been for a method, other than the time-honored weighing of known lengths of atmosphere equilibrated samples, of rapidly estimating both random and periodic fluctuations in cross sectional weight.

An experienced overseer can estimate the nonuniformity of stock in process by various methods of stretching or crumpling a length of material, thereby exaggerating any gross irregularity to the point of easy visual detection. However, neither this method nor the overseer's judgment is sufficiently precise for adequate quality control in terms of modern manufacturing standards, and now visual inspection of yarn, sliver, and roving uniformity in mills in this country and abroad is rapidly being replaced by instrumental inspection.

Automatic evenness testers (a sliver and roving tester was made available prior to 1930, and several all-purpose testers have appeared since the war) enable mill management to determine the best and most economical process, and the most propitious speeds and machinery settings for the production of the desired product. Machinery faults are quickly spotted by evenness tester checks around the individual processing points; claims of equipment manufacturers can be checked by using these testers to evaluate new production machinery and supplies; and the effects of various experimental drafting arrangements on a drawing frame can be determined.

Although mill acceptance of the first evenness tester, the Saco-Lowell Slivergraph, has been almost universal, the testing of material for evenness by using the various recently developed mechanical and electronic testers is a comparatively new procedure, and many mills still have had very little background on the use of these improved instruments. Several articles on the finer points of testing, using one or another of the various testers, have been published, but each has assumed that the reader has a working knowledge of the physical and operational characteristics of the testers and an understanding of methods used for interpretation of their charts.

The mill man who is not acquainted with the various types of testers, but who may be considering the purchase of one, is frequently incapable of judging the virtues of each. It seems timely, now, to give to the mill man the required perspective on these testers, to outline their operational capabilities, characteristics, and accessories, and to explain various methods of interpreting tester charts.

Tester Types. The several types of available evenness testers operate according to widely differing principles. The original instrument, the Saco-Lowell Slivergraph, which was patented in 1925 by E. D. Walen of Pacific Mills, is a mechanical compressibility tester with a recorder operated by a mechanical linkage. The improved, later version, the Pacific Evenness Tester, introduced in 1950, though operating similarly on the compressibility principle, has an electronic amplifier and recorder.

Of the newer testers, the Brush Uniformity Analyzer and the Uster Evenness Tester are completely electronic, while the SERC Electron Micrometer is a photo-electric device. The latter three testers are also equipped with electronic amplifiers and paper-strip recorders for recording material evenness fluctuations as a function of material length.

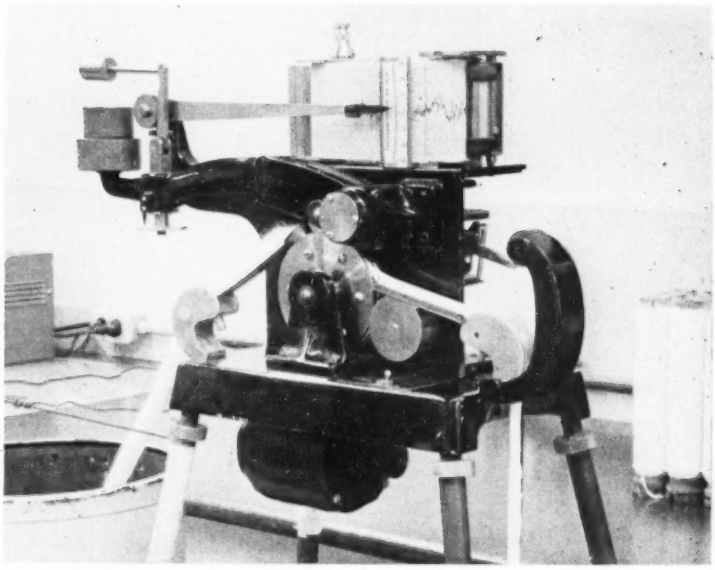
Integrators which will electronically evaluate the recorded evenness graph are available for the Uster tester, while various

electro-mechanical counting systems are available for the semi-automatic evaluation of the evenness graphs of the Slivergraph and the SERC tester. The Brush Analyzer comes equipped with an Evaluation Meter for the semi-automatic averaging of evenness graphs of yarn.

The Slivergraph. The Saco-Lowell Slivergraph, manufactured by the Saco-Lowell Shops, Boston, Mass., is the evenness tester with which most mill men are familiar. It is a comparatively simple device in which sliver or roving is passed between a set of tongue and groove rolls at a rate of one yard per minute. The groove in the bottom roll is square in cross section, so that the material being tested is compressed into a rectangular shape with three fixed sides.

The tongue roll at the top imparts a pressure of about 1600 psi on sliver and 2500 psi on roving through a compound lever and weight system; the tongue in the groove moves up and down to accommodate the thickness of the sample. The up and down movement is transmitted through a lever arm and pen to a chart upon which the thickness variations are recorded with a magnification of 100X.

The chart moves at two speeds, one inch per inch or three inches per yard of tested material, and is graduated into thirty 0.1 inch increments marked ± 1 to ± 15 from a common center line. Each 0.1 inch chart increment represents 0.001 inch change in the thickness of the sample cross section when it is between the rolls.



SACO-LOWELL SLIVERGRAPH for testing evenness of sliver and roving. Manufactured by Saco-Lowell Shops.

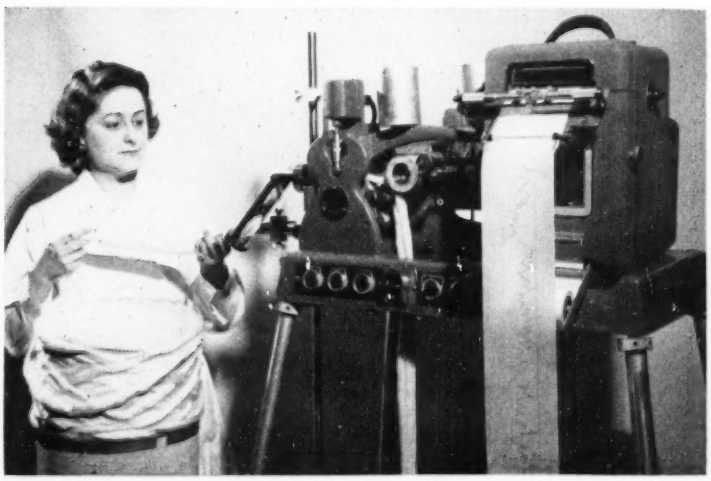
Pacific Evenness Tester. While the Saco-Lowell Slivergraph is adequate as a means of evaluating the uniformity of card and drawing frame sliver in the cotton industry, it has not seen widespread use in the woolen industry because its narrow testing range is unsuited to the multiplicity of the sliver and roving sizes encountered. Additionally, it is unsuited to testing yarns.

Consequently, in the period 1940-1950, an improved, more versatile version, the Pacific Evenness Tester, was developed by Pacific Mills and is now manufactured and distributed by the Anderson Machine Shop, Needham Heights, Mass. The cost is about $3,000.

This tester differs from its predecessor mainly in that the indicating and recording mechanism is electronic and, as such, the range and the sensitivity of the newer instrument may easily be adapted to give an accurate unevenness evaluation—not only of sliver and roving, but also of yarn.

There is no direct connection between the tongue roll and the recorder. Instead, the movement of this roll is transmitted to a General Electric Gauge Head which converts the vertical up and down movement of the roll into electrical impulses of proportional magnitude. The impulses actuate a pen on a variable sensitivity strip chart recorder so that a continuous graph is drawn to indicate the thickness variations of a material being tested. The top and bottom rolls are connected through a displacement gauge by a micrometer which is used to measure, in thousandths of an inch, the dis-

PACIFIC EVENNESS TESTER, equipped with a special General Electric photoelectric recorder. Manufactured by Anderson Machine Shop.



placement of the top roll from the bottom by the material in the groove.

The recorder is equipped with four pens: one is controlled by the tongue roll movement and traces the evenness fluctuations; one micrometrically adjusted pen records average thickness; and two micrometrically adjusted pens record manufacturing limits of the material being tested. For routine work the procedure is to set the displacement and average thickness micrometers to register the desired sample thickness and to set the limit micrometer to the desired limit figure. The material is introduced to the rolls and, if it is up to standard as to weight and evenness, the resultant graph will be equidistant above and below the average line, and the whole graph will be between the limit lines.

The tester is designed to test the evenness and weight of materials from 4.5 oz per 5 yards wool sliver to 100s worsted yarn or the equivalent in any other natural or synthetic fiber. Three sets of tongue and groove rolls, complete with weights, castings, displacement gauges, and lever arms, are supplied with the instrument for testing different material sizes.

The Pacific Tester is a versatile and sensitive instrument. Unlike the Slivergraph, it employs electronic circuits rather than mechanical linkages so that there is no appreciable drafting of the material as it is passed through the rolls. The electronic recorder has no noticeable lag, enabling it to give a true graphical representation of the thickness fluctuations of the sample, and it features a high magnification range, about 90X to 1000X. The actual measuring point is the narrow nip line between the rolls, which contributes to the sensitivity of the instrument.

It is possible to determine average weight or yarn numbers fairly accurately from an evenness test by preparing charts relating known weight or count versus thickness for a particular tester groove. By determining the average thickness of the material being tested, average count or weight is readily determined from the chart.

Oil and moisture have no appreciable effect on the results so that prior to determining counts or weights there is no need to condition the material in standard atmospheres; the actual weight or count determined is based on actual fiber content or cross sectional thickness.

Normal twist has no effect on the instrument's ability to determine evenness, since true thickness, and not bulk or loftiness, is measured. Twist will affect results only because of the contraction due to twist take-up.

Gross unevenness in twist will affect the graph to a small extent, since some highly twisted lengths of yarn will "bunch" in the measuring groove, causing unequal distribution of the fibers. Changes in temperature or in atmospheric conditions, within reasonable limits, do not influence the graph, although high operating temperatures could change the calibration of the thickness micrometer.

Electronic Testers. There are two important all-electronic evenness testers on the market: the Brush Uniformity Analyzer, developed by Dr. E. J. Bernet of the Institute of Textile Technology, Charlottesville, Virginia, and manufactured and distributed by the Brush Electronics Co., Cleveland, Ohio; and the Uster Evenness Tester, manufactured by Zellweger, Ltd., a Swiss firm, and sold and serviced in the U. S. A. by the Uster Corporation with American offices in Boston, Mass., Atlanta, Ga., and Charlotte, N. C. Both use capacitor circuits to measure variations in yarn, roving, and sliver weight per unit length.

The material to be tested passes through the plates of an electrical capacitor and, as it moves through, it changes the capacitance and/or frequency by an amount proportional to the weight of the material between the plates. Since the dielectric constant of non-conducting textile materials is several times that of air, a careful measurement of capacity at any given instant during a test indicates the mass of the material between the plates.

The Brush Analyzer. The Brush Analyzer, costing about $2,200, uses a series of three interchangeable measuring heads for testing material of cotton count between 0.08s and 150s, and graphs of the uniformity of yarn can be made with a recorder at a yarn speed of 5 feet per second, a very high recording speed for this type of instrument. Roving and sliver are run at 6 inches per second. The special Brush Recorder has three chart speeds—5, 25, and 125 millimeters per second.

The Cotton Countmeter normally furnished with the analyzer is calibrated to measure the yarn size (from 0.08s to 150s) of the material passing through the measuring head. Another function of this particular scale is its use as a guide to the original adjustment and calibration of the Analyzer. A second scale, the Evaluator Scale, for yarn percentage nonuniformity, has a range from 0 to 150 per cent.

The overall percentage of yarn unevenness may be found by averaging a number of scale readings (20 to 30) taken at short periodic intervals while the material is being run. This may be more conveniently accomplished by using an external evaluation meter which may be read remote from the analyzer. This meter has two scales, 0 to 150 per cent and 0 to 75 per cent nonuniformity, and the use of one or another of these scales is governed by the position of the pen sensitivity control.

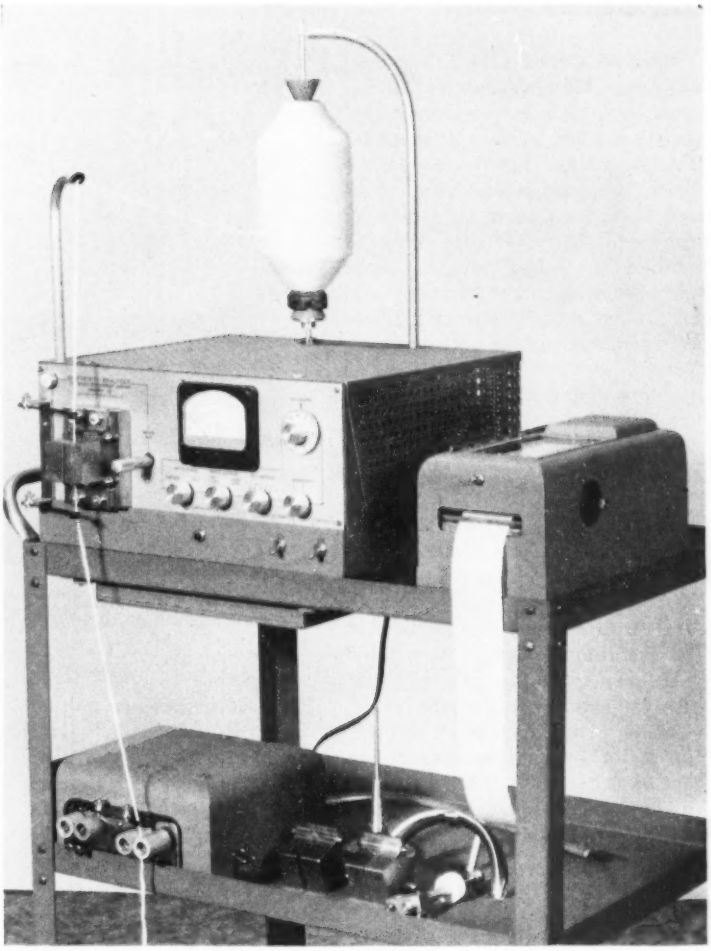
Automatic evaluation of yarn can be made from two completely different standards. One is the percentage nonuniformity, as shown by the Evaluation Meter, which corresponds to the answer which would be obtained by a visual evaluation of the graph, taking either 12 or 120 inches (depending on the scale used) as the sensitive length. In the second method the short term variations are filtered out with averaging circuits, making long term variations more readily apparent.

By proper adjustment of the Pen Averaging Circuits, measurements can be made similar to that which would be obtained if the material were cut into one-half, six, twelve, or thirty-six inch lengths (each length being weighed

separately) and a graph of these weights plotted against the length of the complete yarn sample. Periodicities of widely differing wave lengths which are introduced in drawing, slubbing, and spinning can thus be seen clearly by filtering out the short term fluctuations put into the yarn during manufacture.

If the averaging circuit is set up to correspond to the draft ratio in spinning, the graph obtained will closely represent the graph of the roving which made that particular piece of yarn, since short term fluctuations which have been introduced by the spinning frame have been filtered out. By using a longer average, an approximation of the uniformity of the finisher sliver can also be obtained by measuring only the final yarn. Thus, the evaluator method of determining percentage nonuniformity is used in ordinary checking for quality control, whereas the various averaging circuits are an aid in trouble shooting.

Because the time constant of the Evaluation Meter averaging circuit is adjusted to the speed of yarn through the measuring head, the Evaluation Meter may be used only for yarn in so far as percentage nonuniformity readings are concerned. Since readings taken at sample speeds other than 5 feet per second cannot be related directly to results obtained from manual evaluation of the graph. Evaluation Meter readings should not be used with roving or sliver which are run at a much lower speed through the measuring head. However, arbitrary standards can be set up, and sliver and roving percentage nonuniformity can be estimated by reading the Evaluation Meter according to the arbitrary scale. For absolute percentage nonuniformity values on sliver and roving samples, the graph should be drawn on the recorder and evaluated manually.



BRUSH UNIFORMITY ANALYZER, originally designed by the Institute of Technology, is manufactured by Brush Electronics Co.

Fiducial Meter. At one time, a serious drawback to the successful use of the Evaluation Meter for the determination of the percentage nonuniformity of the yarn samples lay in the fact that the trace had to be exactly centered on the chart; that is, the average deflections of the pen line above the center line of the chart had to be equal in magnitude to the average deflections below the line, or as nearly so as it was possible to make them. This adjustment was a highly critical matter and had to be carried out with extreme care. An error of as little as 0.04 inch in centering the pen caused an error in the Evaluation Meter readings of 5 per cent at the sensitivity where the pen records averaged irregularity yard by yard.

This error was realized by the Institute of Textile Technology, and a new accessory was developed to eliminate it. This accessory is called the Fiducial Meter and has been in use by about 20 mills for about a year. The Fiducial Meter is marketed by Brush as an accessory to the Uniformity Analyzer, retailing at a price of $135.

In use, the Fiducial Meter is read every time the Evaluator Meter is read and, at the end of a run, the average of the Evaluator readings is multiplied by the average of the Fiducial Meter readings to give the corrected percentage nonuniformity. The Fiducial Meter is arranged to read the mean of the yarn, and its scale is calibrated in terms of a correction factor.

Thus the critical adjustment of the pen deflection is no longer necessary. If the pen deflection were perfectly set, the Fiducial Meter would simply read unity. But the pen deflection need only be set roughly, and the actual correction is then read from the Fiducial Meter. This is an important feature of the Brush in-

strument.

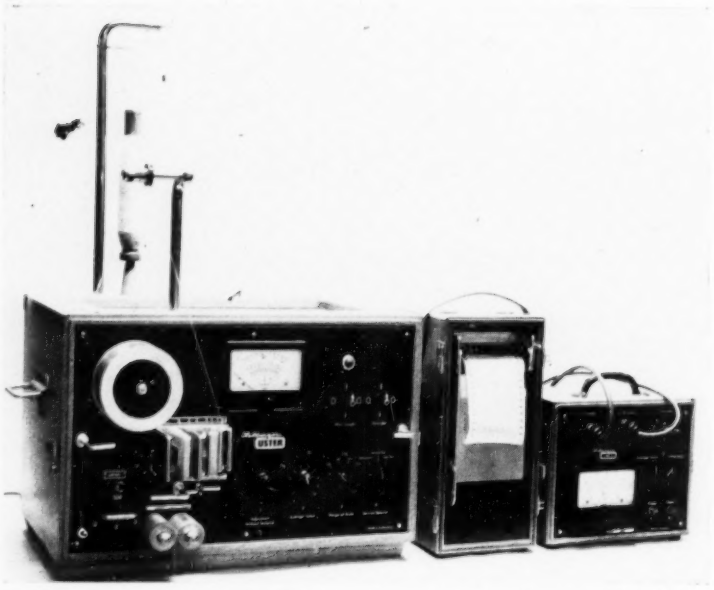
Reading Cotton Count. The Cotton Count Meter estimate of cotton count or weight is necessarily limited to a short portion of material as it passes through the measuring head. The average of several readings will give a more accurate cotton count. However, the standard method of reeling off 120 yards and weighing it is simpler and faster and more accurate. This is not a disadvantage of evenness testers, for the point is that to measure evenness you must measure short lengths of material, whereas to measure cotton count accurately you must measure very long lengths.

Uster Evenness Tester. The Uster Evenness Tester, which costs about $2,500, is equipped with two electronic oscillators; one of the oscillators operates at a fixed frequency while the other operates at a frequency which varies in accordance with the mass of the textile material being passed through the external capacitor plates of the measuring head. The outputs of the two oscillators are converted, detected, amplified, and compared by conventional electronic techniques.

A sensitive milliammeter visually indicates directly in percentage the inch-by-inch variation from the mean cross section of the lap, sliver, roving, or yarn being tested. This same inch-by-inch variation may also be recorded on a strip chart.

Samples as fine as 150s English counts and as heavy as the heavier picker laps may be evaluated, but picker laps require the addition of the Picker Lap Vari-Meter attachment, and sliver laps must be condensed and guided through the measuring comb by the use of the Sliver Lap attachment. The eight-slot measuring comb containing the capacitor plates makes possible the wide testing range without the necessity of changing the measuring head.

Material speeds of 6, 12, 24, 75, 100 and 300 feet per minute are provided by three reversible "push-in" gear assemblies. Snap-on gears provide a choice of recorder paper speeds of 1, 2, 4, 10, 20, or 40 inches per minute.



USTER EVENNESS TESTER, recorder, and integrator for evaluation of picker laps, sliver, roving, or yarn. Sold by Uster Corp.

A choice of four degrees of amplification is provided. This means that by turning the scale selector control knob, the indicator and recorder can be set to register ± 12½%, ± 25%, ± 50%, or ± 100% variation from the mean cross section as full scale deflection. Usually, the ± 100% scale is used for yarn, the ± 50% scale for roving, the ± 25% scale for sliver, and the ± 12½% scale for very even sliver or for filament yarn. The ± 25% scale is also normally used for testing picker laps.

A more recent model, the Model C Evenness Tester, is available specifically for use in connection with the evaluation of continuous filament synthetic yarns. This tester can be used on all types of yarns, including silk, between 10 and 10,000 denier.

While, in both of these models, practically all variations in the tested material are detected and recorded, it is possible electronically to damp out the shorter term fluctuations and to register instead only the long trends in material evenness.

Although the Uster testers may be used in the same general manner as the Brush Analyzer, Uster testers are of the direct indicating type and do not contain any type of averaging circuit such as the Evaluation Meter of the Brush instrument. Consequently, both the meter needle and the recorder pen continually indicate instantaneous percentage unevenness. Tests must either be recorded and the graphs evaluated manually or a Uster integrator must be attached to the tester.

Two types of integrators are available; one costs about $700 and indicates the mean linear percentage unevenness while the other costs about $900 and indicates the coefficient of variation of the material under test. These integrators have an unvarying time constant of 2½ minutes which means that their reading at any particular moment, when properly corrected, is the average linear percentage unevenness or the coefficient of variation for the previous two and one-half minutes testing. These integrators may be used with any type of yarn, roving, or sliver.

The tester meter is not calibrated to read directly in yarn counts as is the Brush meter, but such determinations may be made by making a test on both a sample of known and unknown count. By averaging out the graphs, the

(Continued on page 125)

Explanation of Correction Factors for the Uster Uniformity Tester

By LOUISE F. OSER AND LOUIS A. FIORI
*Southern Regional Research Laboratory**

WHEN a product is tested on the Uster[1], it passes between the plates of a condenser with resulting changes in capacitance which are proportional to the variations which occur primarily in the weight of the test material. These changes are recorded on a chart and are also analyzed by an Integrator.

In a recent article[2] the authors showed the necessity of applying the Integrator correction factors, which are given in the Instruction Manual, to the range values obtained from the Uster chart. No attempt was made to explain how these factors were derived, since it was assumed that their origin was understood from the manufacturer's explanation of the principles of the Integrator[3]. Recently, however, it has become evident[4] that some confusion still exists concerning these factors. The purpose of this note is to explain the operating principles of the Uster which make it necessary to use these correction factors with both Integrator and range methods to obtain a correct evaluation of product uniformity, and to explain how these factors are calculated.

Explanation of Integrator. The Integrator consists of two scales, the Unevenness scale and the Average Value scale. For any section of material tested, the Unevenness scale represents only the magnitude of the variations in weight; the Average Value scale represents the average weight. To get the per cent unevenness, therefore, the amount of variation must be divided by the average weight. The Unevenness scale is so calibrated that whenever the Average Value scale reading is "0" the value read from the Unevenness scale is identical with the per cent unevenness.

However, whenever the average weight results in a $\mp$ Average Value scale reading, the value read from the Unevenness scale must be divided by that average weight before a true percentage value can be obtained. The average weight is determined from the Average Value scale reading in the following manner:

1. Designate an average weight which results in an Average Value reading of "0" as 100%.

2. Each division of the Average Value scale represents a % difference in average weight as follows:

Scale	Change per Division
100%	4%
50%	2%
25%	1%
12.5%	.5%

3. Examples of average weights

corresponding to average value readings are thus:

Scale	Average Value Reading	Average Weight
100%	−1	96%
"	+1	104%
50%	−1	98%
"	+1	102%
25%	−1	99%
"	+1	101%
12.5%	−1	99.5%
"	+1	100.5%

In order to shorten calculations at each reading, a table of reciprocal values corresponding to various average weights was prepared. Thus instead of first determining the average weights as shown and then dividing the Unevenness Scale readings by these weights, the readings are simply multiplied by the correction factors listed in the manual, which represent for all scales the values

$$\frac{100\%}{\text{Average Weight}}.$$

An example will make this clear. Assume that when a material is tested on the 100% scale the Integrator readings are as follows:

Unevenness scale = 16%;
Average Value Scale = −5.
The average weight is thus $100\% - (5 \times 4\%) = 80\%$.

$$\text{The correction factor is } \frac{100\%}{80\%} = 1.25.$$

The corrected unevenness value is $16\% \times 1.25 = 20\%$.

The table of correction factors in the Integrator manual lists the factor 1.25 opposite the Average Value reading of −5 in the column for 100% scale. The table lists only the factors within Average Value scale readings of $\pm$ 10 since the average weight would very rarely fall outside these limits when the Average Value knob is properly set. However, if necessary, correction factors corresponding to any average weights may be determined in the manner described above.

Explanation of Chart. The Uster chart, like the Integrator, is calibrated in percentages; but again these percentages hold true only when the average weight is such that an average line drawn through the deviations coincides with the center line of the chart. Correction of chart values would be unnecessary if it were true that the deviations would be of the same magnitude regardless of the position of the diagram with respect to the center line. However, the converse is true, for the same material tested at varying positions on the chart will produce deviations of varying magnitudes in proportion to the changes in average weight.

The explanation of this change in magnitude lies in the nature of the response of the instrument which is such that a section 40% heavier than the average weight causes the indicator to rise a distance equal to 40% of the average weight and not 40% of the chart. An example will illustrate this point.

Assume that the range of a material is known to be 80% with the heaviest section 40% heavier than the average weight and the lightest section 40% lighter than the average weight. Assume also that when this material is tested on the Uster using the 100% scale, the average weight records at the −20% line of the chart (see accompanying chart).

Since an average weight is designated as 100% if the average line coincides with the center line of the chart, in this case the average weight is designated as 80%, i.e. (100% −20%). The section that is 40% heavier (Point A) will cause the indicator to rise 40% of 80% or a distance represented by 32% of the chart, and will record at +12%.

In the same manner the section that is 40% lighter than the average will record 32% below the average line at −52% on the chart. Thus, although the range has been predetermined to be 80%, reading the chart would indicate a range of 64%, i.e. (52% + 12%). Dividing the read range by the average weight produces the correct result: $\frac{64\%}{80\%} = 80\%$.

Thus it is seen that it is again necessary to divide the value read from the chart by the average weight of the material. For this reason the same correction factors that were calculated for the Integrator method also apply to the correction of range.

Acknowledgement. Appreciation is expressed to John J. Brown, Head, New Products Section, to A. E. Martin, Jr., Machine and Development Section, Cotton Mechanical Processing Division, and to Jack Tallant, Analytical and Physical Division, for encouragement in this work and many helpful suggestions.

REFERENCES

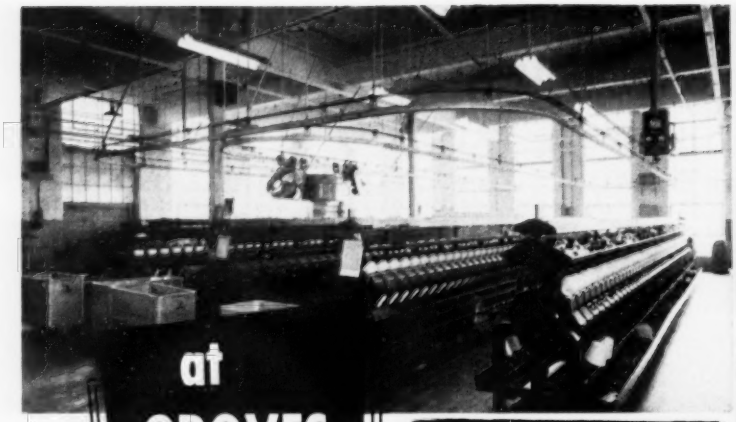
(2) Fiori, L. A. and Oser, L. F., "The Importance of Correcting Range Values on the Uster Uniformity Tester," *Textile Industries* 116 (1), 149, 151, 153, 169 (January 1952).

(3) Operational Integrator Manual, Uster Corporation, Charlotte, N. C.

(4) Hamby, D. S., "Effect of Moisture on Capacitance-Type Evenness Testers," *Textile Forum* 9 (3), 25-30 (June 1952); private correspondence; and textile conference discussions.

*One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

(1) The mention of trade products or companies does not imply that they are endorsed by the Department of Agriculture over similar products not mentioned.



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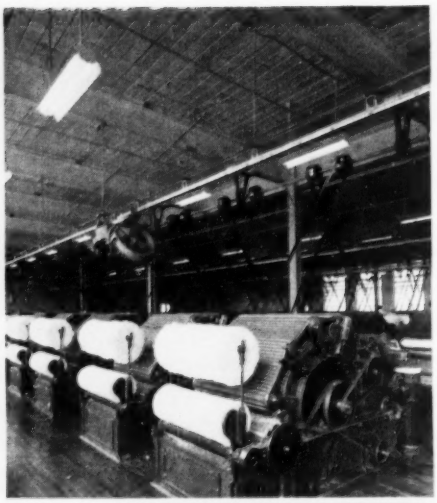

Ceiling cleaning in card room.

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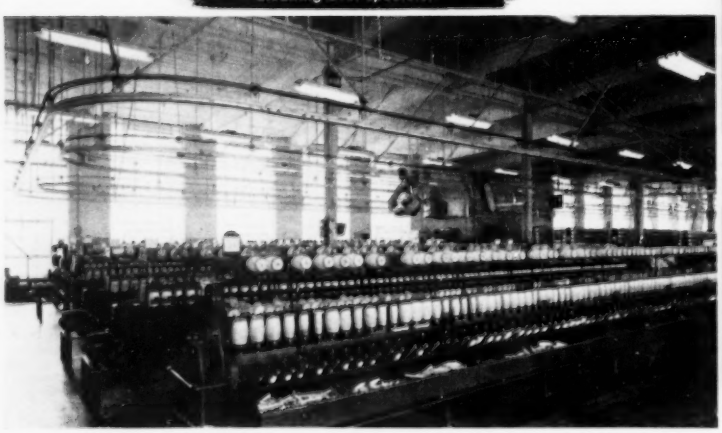
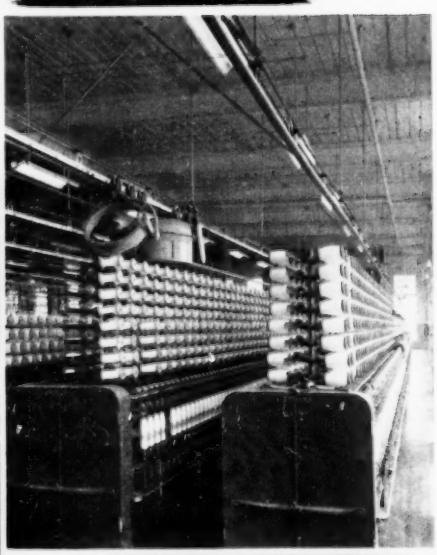




Cleaning over twisters.

average linear percentage deviation of the unknown from the known may be calculated. From this, the count of the unknown may easily be determined.

The tester is quite stable after the initial warm-up period is passed. It is slightly sensitive to the presence of moisture or oil in the material being tested and, if materials with degrees of humidity which are considerably higher than those corresponding to the existing normal air humidity, or materials in which the moisture level varies with length, are tested, the unevenness results will be in error. Minor fluctuations in testing conditions, including temperature, sample moisture, and humidity, do not significantly affect the measurement of long term variations, but these minor fluctuations will sometimes affect the measurements of short term variations.

Photoelectric Tester. A photoelectric type yarn evenness tester, manufactured by the Standard Electronic Research Corporation, New York, has reached the market. Essentially a directly calibrated meter which registers (in thousandths of an inch) deviations from an adjustable base dimension, it operates on the principle of blocking out light which is shining on a photo-sensitive tube.

A beam of light is projected through two apertures, one for reference and one for measuring. The height of the measuring aperture can be varied by a diaphragm whose lateral displacement is measured by a micrometer. Since there is a linear relationship between the effect on the phototube of the micrometer controlled diaphragm and the actual diameter of the specimen under test, the actual one dimensional diameter of the specimen may be read directly from the micrometer.

For example, if a yarn of 0.015 inch diameter is placed in the measuring aperture, the measuring phototube will receive less light, and the meter will deflect from its mid-point unless the width of the measuring aperture is increased by opening the diaphragm 0.015 inches. This displacement—and the diameter of the yarn—is read directly from the micrometer. In actual operation, any variation from the base dimension of the yarn will either reduce or increase the amount of light striking the measuring photo tube, and the meter needle will reflect these diameter changes. The changes are recorded on a special, high amplification recorder.

This principle is utilized by both the SERC Yarn Checker and the SERC Electron Micrometer.

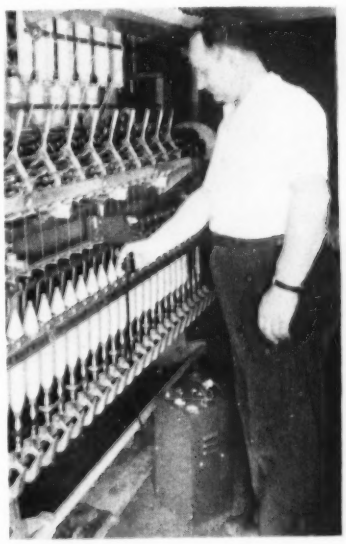
The Yarn Checker, costing about $500, is a portable instrument for checking yarn diameter and average variations in yarn diameter on the spinning frame as the yarn is being spun. In operation, the Checker is applied to the yarn between the nip roll and the pig tail. No exact positioning is required, and the spun yarn contacts only the guides.

In order to make the meter indications more readily understandable, a damping circuit has been incorporated to minimize point to point cross sectional variations throughout the length of the yarn so that the meter will indicate only average values and trends. The primary advantage of this Yarn Checker lies in the fact that it gives a qualitative, on the spot check on the yarn coming from an operating spinning frame.

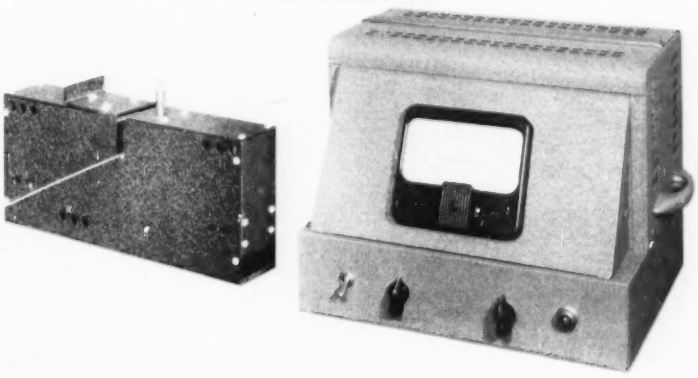
The SERC Electron Micrometer, costing about $1200, consists basically of an inspection head, containing the light measuring equipment, and a meter for indicating variations, in steps of 0.001 inch, in one dimensional diameter. The meter may be calibrated as 0±0.015 or 0±0.005 inch, zero being any basic dimension between 0.001 and 0.080 inch.

Several accessories to this basic model are available. An amplifier and Brush recorder may be used in place of the Indicating Meter. This recorder, similar to the one used on the Brush Uniformity Analyzer, has chart speeds of 12, 60, and 300 inches per minute and is particularly suitable for rapid recording of quick diameter variations. Wheelco Capacilog Recorders, with slower chart speeds, may be used to record average diameter and gradual changes in long run production studies.

Additionally, a HI LO counter,

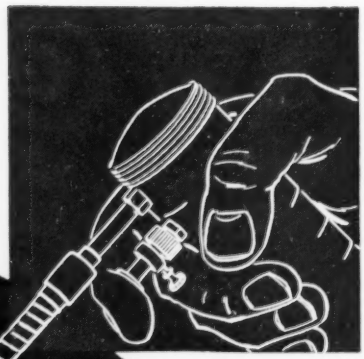


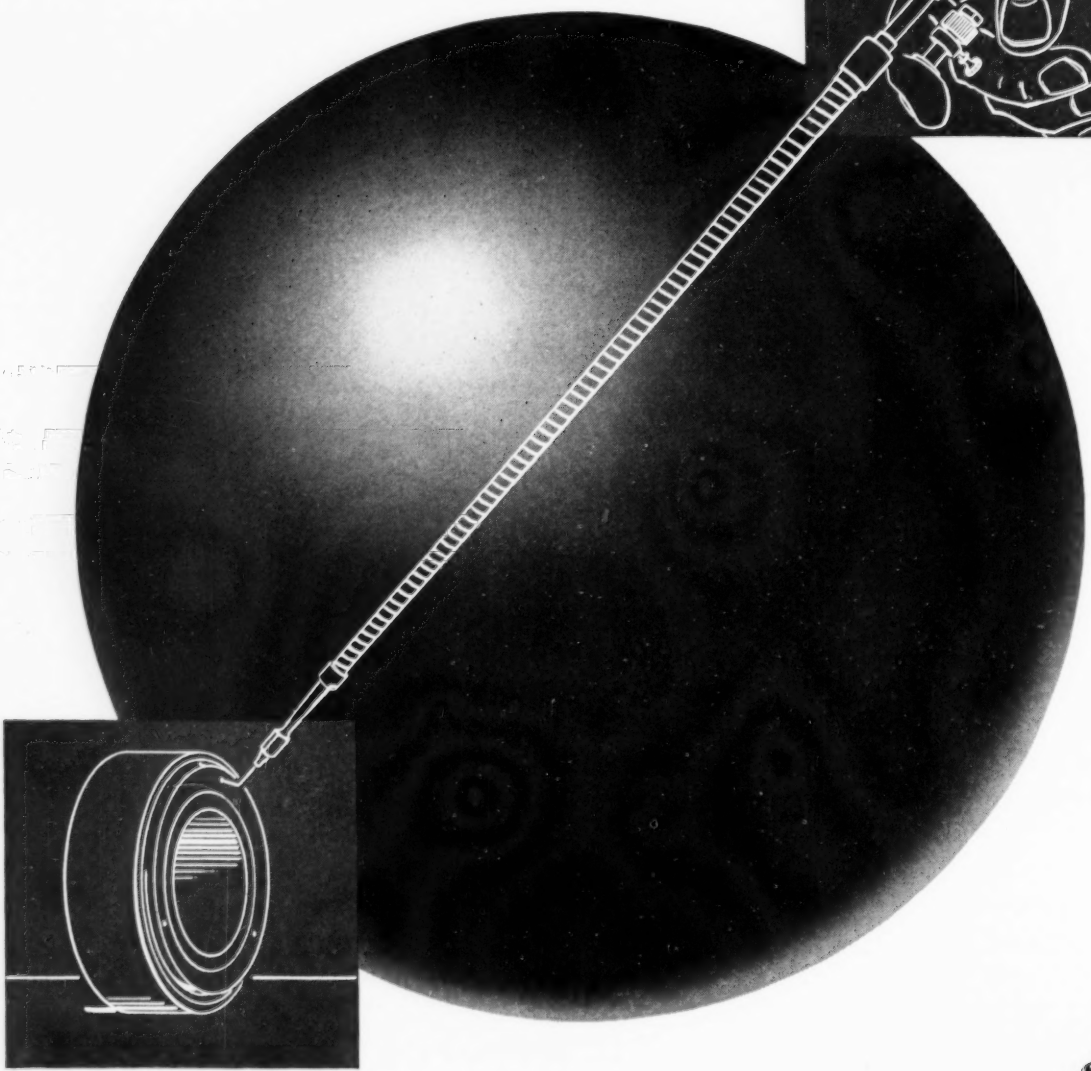
SERC YARN CHECKER (right) is used to test yarn evenness at point of production. Below is the SERC Electron Micrometer. Manufactured by Standard Electronic Research Corp.



FIRST

TO GIVE A BEARING THE "NEEDLE"





Originator of the Sealed-for-Life type of ball bearing, New Departure was also the first to develop a method of revitalizing the sealed-in lubricant.

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SERC YARN ANALYZER. Model EMD-8, console type. Manufactured by Standard Electronic Research Corp.

costing about $500, is available for counting high and low spots in test yarn. The counting mechanism is triggered each time predetermined unevenness limits are exceeded, affording a count of neps, slubs, knots, and other high and low spots. The Micrometer may be equipped with several HI LO counters set to different limits. With six or more counters, the data furnished form a frequency distribution curve with sufficient cell groupings for statistical analysis.

This instrument is quite useful for determining counts of yarns, but one important factor should be remembered: it is the effective, one dimensional diameter of the yarn which is measured. Diameter readings may be converted to count or weight numbers by reference to previously prepared charts relating these parameters to yarn diameter.

It is claimed that the instrument is not affected by the presence of moisture in the material under test. Under actual operating conditions, the effect of sample moisture is extremely slight, and day to day reproducibility is quite possible, providing the moisture content of the samples is reasonably constant; however, gross moisture changes will affect the bulkiness of the yarn samples, thereby influencing the apparent diameter. Consequently, the tester should only be used on samples of approximately the same moisture (or oil) content.

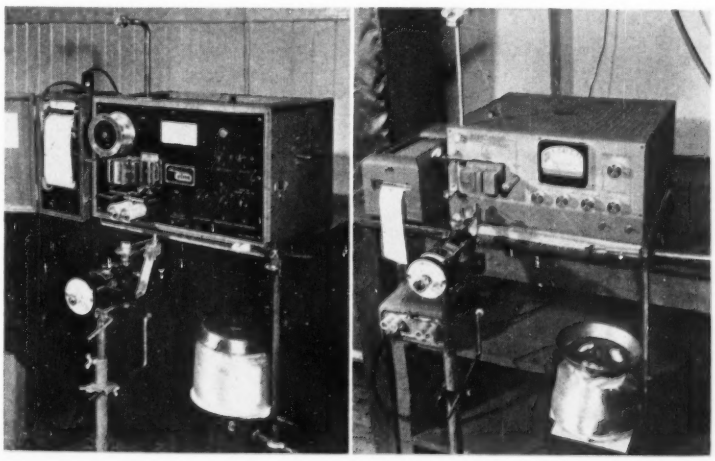
Various other factors should also be considered. The diameter is dependent upon the tension of the yarn in the instrument, since as tension increases diameter may be expected to decrease somewhat. Additionally, twist will affect the diameter, variations in twist being seen as variations in yarn evenness.

The Rotafil. Testing the uniformity and count of zero or low twist filament yarns on capacitor and photoelectric testers is complicated by the "shape effect." This effect leads to a loss of accuracy in such testing because the yarns tend to flatten as they pass over the guides and because their shape continually varies from rectangular, through square, to circular. As a result, these measuring devices tend to record fluctuations in silhouette rather than in yarn linear density.

A recent unit, the Rotafil, developed by the Textile Research Department of the American Viscose Corporation, twists and rotates the yarn as it is being evaluated in the measuring head of the testers. This eliminates the shape effect by increasing the number of flats and edges in the measuring area and by keeping this number constant by rotating the yarn on its axis. It is sold in this country by the Uster Corporation; the price is about $160.

Interpreting Charts. The commonly used method of interpreting graphically recorded evenness tester measurements is to calculate, by various methods, the per-

ROTAFIL ATTACHMENT aids in testing zero or low twist filament yarns. Shown here on Uster (left) and Brush uniformity testers. Sold by Uster Corp.



This means

SEAMLESS AND SUPER-FLEXIBLE, Armstrong's Accotex Aprons give you the smooth slip-roll action essential to spinning superior yarn. The tough inner surface, made of a special compound, stands up under millions of trips over the nose bar.

apron's super-flexibility smooth slip-roll action

Armstrong's improved NO-750 helps you draft clean, uniform yarn on single-apron frames

An apron really has to be flexible to work well on many single-apron frames. Otherwise, it may "chatter" or buckle, giving you the irregular slip-roll action that means uneven yarn.

Armstrong has developed an apron with the extra flexibility you need for the newest single-apron spinning equipment. It's the improved NO-750 Accotex® Apron. Once you see how closely it hugs the nose bar, you'll be convinced it has all the flexibility you need. Watch how it runs smoothly under the slip roll. Notice that there's no seam to cause bumping or buckling. You'll understand why this Armstrong's Accotex Apron makes such a big difference in yarn quality.

Everything about the NO-750 contributes to long life and efficient spinning. The smooth outer face won't crack or scuff up. The inner face runs clean and resists nose bar abrasion. Between these two layers of rubber, a core of tough cotton cords prevents curled edges without reducing flexibility.

For double-apron spinning, too, Armstrong's Accotex Aprons are inexpensive assurance that the yarn you produce will be clean and uniform. Ask your Armstrong man to set up a test frame in your mill or write to Armstrong Cork Company, Textile Products Department, 6407 Ivy Street, Lancaster, Pennsylvania. These aprons are available for export.

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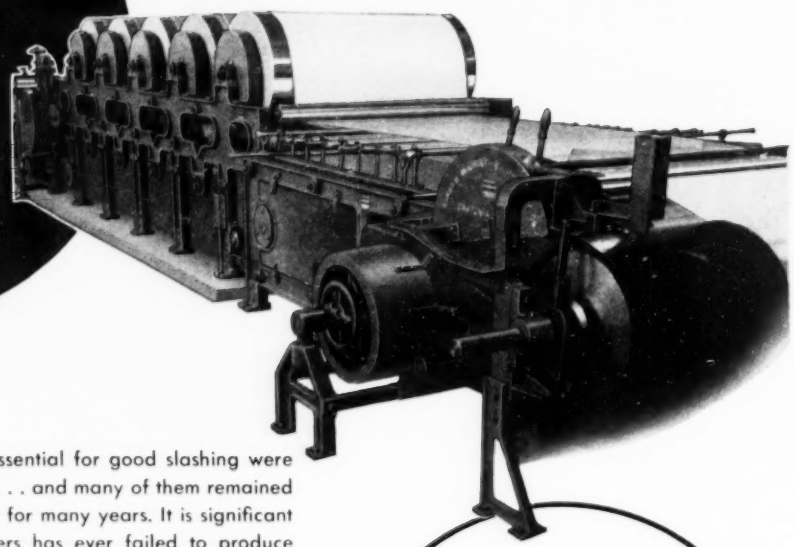
ARMSTRONG'S ACCOTEX APRONS

one of Armstrong's complete line of textile mill supplies

Years Ahead in Performance



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centage unevenness or the percentage nonuniformity. Readings taken from the peaks and valleys of the graphs are generally used in making this calculation. Peaks, which are read as highs, represent variations in the material above the standard for which the tester was set. Valleys, read as lows, represent variations in the other direction.

It must be noted that, of the testers discussed, the Uster Tester records on a chart graduated directly in the percentage unevenness of the base dimension, while the Slivergraph, the Pacific, the Brush, and the SERC testers record linear deviations from the base dimension. In the first case, the average percentage unevenness is calculated directly; in the second case, the average deviation from the mean is calculated and then, the base dimension being known, converted to average percentage unevenness. The Brush and SERC recorders use charts graduated from zero in the positive direction only. The Slivergraph, the Pacific, and the Uster testers use charts graduated in both positive and negative directions from zero.

In general, there are three methods of determining percentage unevenness: range, planimeter evaluation, or electronic integration or tabulation.

Range. In the range system, the graph is divided into 20 to 40 equal lengths or sections, each section representing a particular unit of sample length. The highest and the lowest points from the zero or base line in each section are marked down in separate columns.

On Uster Tester charts, the difference between the averages of the individual high and low columns is read directly as the average maximum percentage unevenness per unit sample length.

On Brush Tester charts, the difference between the totals of the two columns is divided by one-half the sum of the totals and multiplied by 100 to give the average maximum percentage nonuniformity per unit sample length.

On the Slivergraph, the absolute difference between the two averages, calculated as thousandths of an inch, is converted to the average maximum percentage unevenness per unit sample length, referred to the base dimension.

On the Pacific and the SERC Testers, the absolute difference between the two column averages is taken in divisional units, multiplied by the instrumental amplification constant to convert to thousandths of an inch, and divided by two to determine the mean value. The absolute difference of the averages of the two columns (converted to thousandths of an inch) divided by the mean value and multiplied by 100, yields the average maximum percentage unevenness per unit sample length.

In each case, the maximum percentage unevenness is the absolute difference between the highest of the high spots and the lowest of the low spots on the entire recorded test length, calculated on the basis of the base dimension.

It has been reported for the Uster Tester that range values as read from the chart for a given sample will vary according to the position of the graph on the chart. Displacement of the graph above the zero line results in an increase in the range amplitude, whereas displacement below the zero line results in a decrease in the range amplitude.

To obtain comparable results from different testers using the same sample, the positions of the graphs on the charts must be identical or the read percentages must be corrected in accordance with the average weight.

Two methods are available for determining the average weight. One is to operate both the Uster Integrator and the recorder simultaneously, taking periodic "average value" readings. These readings correspond approximately to the number of chart divisions between the mean line and the center line. Alternately, the position of the mean line on the graph may be estimated and the number of chart divisions between it and the center line counted. In either case, the range results are then corrected by multiplying them by the Integrator correction factors dictated by the position of the mean line.

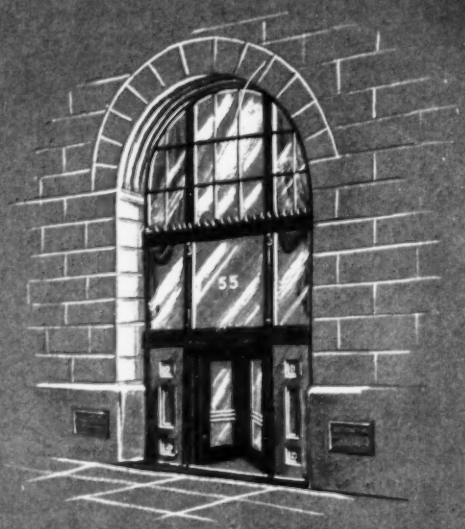
Planimeter. A planimeter may alternately be used to evaluate the graphs. The total area under a given length of graph is measured, and this area is divided by the length of the measured area to yield a mean or average value, which is drawn on the chart. The area above and below the mean line which is enclosed by the recorder pen line is then determined. This area, divided by the area bounded by the mean line and the edge of the chart and multiplied by 100, will yield the average linear percentage unevenness.

The planimeter method of graph evaluation is much more time consuming and tedious than the range method. It has been reported that the range method yields results equal in significance to those yielded by the planimeter method. However, the absolute level of the results yielded by the two methods will not agree because the range method reports average maximum percentage unevenness per unit of sample length while the planimeter method reports average linear percentage unevenness.

Electronic Integrators. Two types of Uster Integrators, as previously mentioned, are available for automatically evaluating Uster Tester graphs. One type indicates the average linear percentage unevenness while the other indicates the coefficient of variation of the sample being tested. These integrators indicate test results as the material is being tested.

It will be remembered that, using the planimeter method for determining average linear percentage unevenness, the quotient of the area of the graph enclosed by the fluctuating pen line and the mean line and the area enclosed below the mean line is employed. However, the Integrator is incapable of calculating on any basis other than the assumption that the mean line coincides with the zero percentage line.

Since it is extremely difficult to adjust the tester so that the mean of the graph will be exactly at the zero percentage line, the Integrator will generally give false percent-



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age unevenness readings if uncorrected. Another scale is provided on the meter, however, to give an average value reading with each percentage unevenness reading. This average value corresponds to the number of chart divisions between the zero line and the mean line. Tables relating average value readings to specific correction factors to be applied to the percentage unevenness readings are available with the integrator. The integrator percentage unevenness reading, when multiplied by the proper correction factor, will give a true average linear percentage unevenness value.

Electronic Tabulation: Hi Lo Counter. The HI LO Counter, which has been mentioned as an accessory to the SERC Electron Micrometer, may be used as a form of integrator. By setting up six or more counters to actuate at certain predetermined unevenness limits while a sample is being run, a series of results is obtained which may be plotted as a distribution curve, i.e., frequency against percentage unevenness. From this curve the median percentage unevenness may be obtained.

If the number of counters is sufficiently great, visual comparison of the frequency of occurrence of various percentage unevenness values is sufficient to determine the median value. Such counter systems can be applied to most of the existing evenness testers with some electronic modification.

Slivergraph Tabulator. A tabulator for use with the Saco-Lowell Slivergraph has been reported. Briefly, the lines on the Slivergraph chart are replaced by the terminals of thirty wires, each of which is connected to a timing circuit and to a counter. As the material to be tested moves through the tester, the contactor point, which replaces the pen at the tip of the indicating arm, moves up and down against the terminals. When the timer periodically completes the electrical circuit, the counter connected to the particular terminal being touched by the contact point will actuate.

Instruments of the counter type are valuable in that they make available a large number of points on the graph for statistical interpretation and eliminate the variable of operator judgment in measuring the graphic record.

Statistical Treatment. Now that quick, dependable methods of judging the uniformity of a yarn, roving, or a sliver are available, statistical theories are rapidly being applied to the general subject of evenness testing.

It is becoming possible to control manufacturing unevenness levels statistically so that textile products may be bought or sold strictly on a specification basis as far as unevenness is concerned.

Since a cross section of yarn (or sliver or roving) consists of a number of small fibers, and since it is impossible to control absolutely the constancy of the number of fibers in the yarn from cross section to cross section, it is evident that there are certain minimal fluctuations in yarn evenness due solely to the varying number of fibers in the cross sections. The standard deviation of the average of the number of fibers in a cross section is

$$\text{Standard Deviation} = \sqrt{N} \qquad (1)$$

where N is the average number of fibers in the yarn cross section. Thus, 20s cotton yarn contains an average of 150 fibers per cross section, so that

$$SD = \sqrt{150} = 12.25 \text{ fibers} \qquad (2)$$

Thus, a ± 12.3% unevenness due to the natural variability of the number of fibers in a given cross section is the least possible unevenness which a 20s cotton yarn can have.

Alternately, the percentage Coefficient of Variation may be considered. This is essentially the ratio of the standard deviation to the average value

$$\text{Per cent Coefficient of Variation} = V = \frac{100\,SD}{N} = \frac{100}{\sqrt{N}} \qquad (3)$$

Using the illustration of the 20s cotton yarn, the percentage Coefficient of Variation would be:

$$V = \frac{100}{\sqrt{150}} = 8.2\% \qquad (4)$$

This figure is the so-called "limit of perfection" and can never be bettered, regardless of the care taken in the yarn processing, because it is due solely to the variation in the number of fibers in a given cross section of a length of yarn. Since the irregularity of a yarn is also slightly dependent upon the diameter of the individual fibers, a more correct equation would be

$$V = \frac{SD}{\sqrt{N}} \sqrt{1 + 0.0004\,V_d^2} \qquad (5)$$

where V_d is the coefficient of variation of the diameter of the fiber.

It is interesting to note the relationship between average percentage unevenness and the percentage coefficient of variation. If the former is defined as the ratio of the total average deviation in cross sectional fiber content to the true average cross sectional fiber content, it is seen that:

1. The standard deviation is proportional to the total average deviation in cross sectional fiber content.
2. N is equal to the true average cross sectional fiber content.
3. Random distribution of fibers is a source of unevenness.

From the above considerations, we can conclude that

$$\text{Per cent Uniformity} = \frac{A}{\sqrt{N}} \qquad (6)$$

i.e., that the uniformity decreases as the yarn count increases. It also follows that

$$\text{Per cent Uniformity} = \frac{B}{\sqrt{\text{yarn weight per unit length}}} \qquad (7)$$

and, since yarn number is inversely proportional to the weight per unit length

$$\text{Per cent Uniformity} = C\sqrt{\text{yarn number}} \qquad (8)$$

where A, B, and C are arbitrary constants applying to a particular type of fiber. These formulas may be used to analyze evenness tester charts and to bring individual mill results to a common level, thereby permitting true, industry-wide unevenness standards to be set up. The effect of processing points on material may be checked by noting the reproducibility of the constant B of the material on each side of the processing point. If B varies, then the processing point is introducing irregularities. An interest-

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The Dileine series are immediately soluble and make perfect emulsions. They are added directly to the dyebath with the dyestuff. No special preparation of the goods is necessary. They are equally effective with either normal or high-temperature dyebaths.

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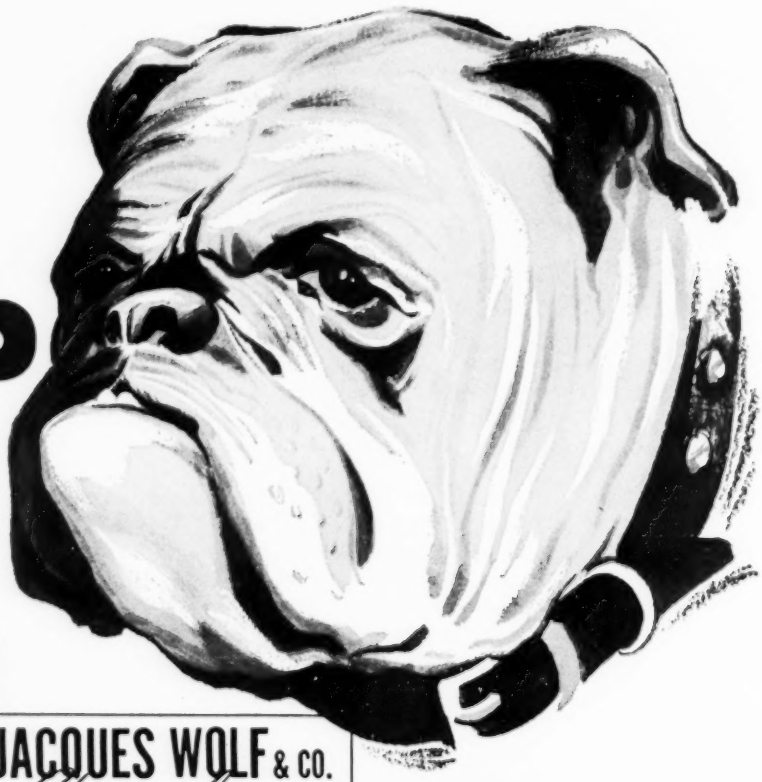
ON GUARD



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Plants in: Clifton, N.J., Carlstadt, N.J., Los Angeles, Calif.

ing application of this use occurred when it was shown that doubling improves blending, weight control, and yarn appearance but, contrary to popular belief, does not seem to have a great effect on material regularity.

Degree of Perfection. A European application of statistical treatment directed toward setting up methods for comparing yarns of different counts and fiber qualities involves the calculation of the "degree of perfection."

$$\text{Degree of Perfection} = \frac{V}{V_{\text{limit}}} \qquad (9)$$

where V_{limit} is the lowest possible coefficient of variation calculated according to Equation 3. In Equation 3, N is the deviation of the irregularity from the mean. The "degree of perfection" can be no less than 1.0, but, in the case of slivers, it can be up in the 20's. The International Wool Federation has adopted this statistical treatment and, in worsted spinning, has set up the following standards:

CLASS	DEGREE OF PERFECTION
Very even	1.2
Average	1.4
Uneven	1.8

Such values have the advantage of being independent of yarn count, fiber length, and condition.

The "Evenness Efficiency" of a drafting process may be calculated according to the formula

$$\text{Efficiency} = \frac{V \text{ calculated}}{V \text{ tested}} \times 100 \qquad (10)$$

where

$$V \text{ calculated} = \frac{V \text{ of the entering material}}{\sqrt{\frac{Nd}{D}}} \qquad (11)$$

where N_d is the degree of draft and D is the number of doublings. In worsted spinning, close to 100% efficiency can be obtained providing the spinning machines are carefully adjusted and constantly controlled.

Evenness Testing

Fiberglas Roof Mops Have Long Life

Performance of Fiberglas yarns in mops used to apply hot asphalt or pitch to roofs is outstanding, Owens-Corning Fiberglas Corp. reports. Only 38 pounds of Fiberglas mop yarn were needed on one recent job to spread hot bitumen over 100,000 sq ft; whereas an ordinary roofing mop must oftentimes be replaced after coating 2,500 sq ft of roof area.

Ten to twenty days of continuous service from the Fiberglas mops is possible due to the fact that the yarn is heat-resistant and non-absorbent. The mops withstand temperatures up to 1,000 F repeatedly without disintegrating — hot asphalt or pitch will not char or burn the yarn. The asphalt

flows freely from the yarn, enabling the mop to spread the coating evenly over the roof and to be easily cleaned.

Occupational Vision Congress at Ga. Tech

Use of the latest equipment does not necessarily insure good lighting, John J. Neidhart of Westinghouse Electric Corp. told those attending the Fifth Occupational Vision Congress held at the Georgia Institute of Technology May 7-8.

Factors which he recommended taking into consideration with regard to lighting are: (1) selection of source to fit the job; (2) adequate shielding and control; (3) understanding of character of the source, visual task, and human seeing machine.

Cases have been reported, Mr. Neidhart said, where plants spent 5 per cent of payroll cost on good lighting and boosted production 37 per cent. Benefits include fewer errors, improved employee morale, greater safety, reduced loss time, increased production.

Speaking on the subject "Correcting Vision for the Job," Donald A. Springer, Anniston, Ala., optometrist, said, "Ninety per cent of individuals found to have defective vision in industrial vision programs can be visually rehabilitated by means of corrective lenses and visual training procedures."

Charles T. McNary, public relations and personnel director of Blue Bell, Inc., discussing the topic "Vision Program in a Large Plant" stated that vision programs are a boon to both employer as well as employee. Top management's interest and supervision are necessary to see that the many phases of a vision program are coordinated and carried out by the various departments involved, he said.

In Mr. McNary's opinion, important elements of a successful vision program include: an employees' educational program which emphasizes that even with visually handicapped people employment will not be ended but placement will be made where their salvaged sight will be best utilized; adequate time for testing; special lenses where abnormal seeing is involved; and proper attention to light, painting, and safety.

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Calculations based on performance records of Victor 4/0 F1.1 X3D Travelers show that one dollar's worth ran about 27,840,000 miles — 1113 times the distance around the equator.

When you see performance like that, it's easy to think that traveler costs are too small to be worth bothering about. But such records are achieved only when you choose the right traveler for the job, and get the best that money can buy.

Selecting travelers carelessly, without proper regard for quality, will quickly cut down the "mileage". Also, excessive ends down, plus frequent traveler changes, can boost your traveler-pound cost in yarn production far out of line.

When you choose Victor Travelers, a Victor Service Engineer will help you make sure to get the traveler best suited to your individual spinning or twisting. You also get extra long traveler-life, because Victor Travelers take top honors in any test for quality and uniformity.

Remember, traveler costs per pound of yarn depend, *never* on price, *always* on performance. Plan now to talk to a Victor man, whether you are running conventional fibers, synthetics, or blends. Write, wire or phone the nearest Victor office . . . for prompt service.

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- Mixed Filling
- Diehl Drives
- Plastic Quills

Staff Report

PRACTICAL mill men throughout Alabama met in Thach Auditorium at Alabama Polytechnic Institute, Auburn, Ala., on Saturday, May 9, to discuss mutual problems related to slashing and weaving practices. H. M. Clark, Pell City, Ala., led the group in the discussion on slashing, and R. L. Alford, Alabama Mills, Aliceville, conducted the weaving forum. Henry Lanier, general chairman, presided at the meeting.

Homogenized Size. Seven mills reported experience with homogenizers, and three of these observed that the cost of size was less when homogenized because pearl starch could be used instead of thin-boiling starch. One mill indicated no difference in size costs, and the remainder had not studied size costs sufficiently to determine the difference in costs. No one observed any difference in size penetration attributable to homogenized size. Four answers to the question noted no difference in shedding; one observed less shedding; and another noted less shedding at the slasher but no difference in the weave room. Quality of warps remained unchanged in four instances; two mills indicated an improvement in quality of warps.

Maintenance on homogenizers was reported less than the requirements for kettles in one instance and more in another; however, in all instances maintenance costs were low for homogenizers. Operating pressures ranged from 1500 psi to 2000 psi but no one offered any concrete evidence to substantiate their choice of operating pressure for homogenizers.

One mill indicated that size could be held 48 hours without harmfully affecting its usefulness. Another mill claimed 24 hours is the maximum safe storage limit. Others had made no conclusive tests on storage limitations of size.

Control of Size Viscosity. In one instance an instrument for measuring size viscosity was tried, found unsatisfactory, and was discarded. Another answer to a question regarding the use of size viscosity and control instruments indicated that Viscometer was installed recently but experience was insufficient for proper evaluation.

A Brookfield viscosity control and recorder was installed between the homogenizer and storage kettle in one mill, and results were favorable on this experimental installation. This apparatus includes a weight in the size tank, and resistance to movement of the weight in the size operates an air pressure valve which regulates the homogenizer accordingly. This device was said to record and control viscosity of the size.

Use of Bulk Starch. Only two

SLASHING topics were presented for discussion by H. M. Clark, Pell City, Ala., who conducted this portion of the meeting. Seated are Henry Lanier, general chairman, and Cleveland Adams, newly elected secretary-treasurer.

"But, I've been doing this every day since I saw what **Swift's Soaps** *do for our textiles!"*

Leave it to a textile man—he really believes in Swift's Soaps. At least, that's our impression when we talk to all the successful operators who consider Swift's Soaps tops for scouring, dyeing, fulling and other specialized service.

You, too, will find that Swift has the *right* soap for *every* textile need. And more, Swift's Soaps combine proper uniformity of composition with excellent physical form.

If you're faced with a unique, especially tough soap requirement, call on us. Our years of soap-making experience can help you find a soap that fits your particular operation.

Listed below are some of Swift's fine soaps. You can order any one of them from Swift's distribution points coast to coast and expect immediate delivery.

Vertex Flakes • Morrow R. O. Flakes • 557 Flakes
White Ribbon Flakes • Wool Flakes

Call **SWIFT** first for **SOAPS**

SWIFT & COMPANY
Soap Department, Chicago 9, Ill.

mills had experience using bulk starch, and the handling system was reported similar in both instances. It was explained at the meeting that pellet starch was purchased by the train car load (128,000 lb). Special vacuum apparatus was required to unload the special cars which have two separate compartments. This system of starch handling and purchasing is less costly in terms of labor and starch, according to a statement at the meeting.

One man can now unload a car of starch in four and one half hours; whereas, formerly ten men required four hours to unload a car containing 600 bags of starch. Engineers claim no danger of explosion from starch dust in this system. The starch is delivered from the car to a large storage bin. A 4,000-lb storage tank at the slasher requires 15 minutes to fill from the main storage bin.

Slasher Drives. All mills reporting experience with P.I.V. drives on slashers indicated good results were secured. Multi-motor slasher drives were used in several mills, and in every instance these drives produced gratifying results in both production and quality. A 20% increase in production was noted in one mill upon using multi-motor slasher drives.

Excellent results were claimed for rubber tension rolls (delivery rolls on front of slasher). One answer stated that, although several rubber tension rolls had been in service for more than a year, only one required buffing after one year of service.

Humidity on Weekends. A vast majority of mills answering a question about humidity maintained in the weave room on weekends stated that humidifiers were either stopped or humidity was reduced considerably.

Out of eleven mills, seven allowed shuttles to remain in boxes during weekend idle period, and four reported removing all shuttles from boxes for the weekend. Few mills engaged in any special preparation for Monday morning start-up in the weave room. Many start humidifiers early on Monday morning. In some instances a weaver or loom fixer applied shuttle dressing, tallow, or petroleum jelly to shuttles before starting up on Monday.

OFFICERS ELECTED

Elected to serve as officers of the Alabama Textile Operating Executives for the coming year were: **H. M. Clark,** Pell City, Ala., general chairman; **H. G. Webb,** Langdale, Ala., vice-general chairman; **Cleveland Adams,** Auburn, Ala., secretary-treasurer. **H. S. Price,** Opp Ala., was elected to serve on the executive committee.

Metallized Sand Rolls. Nine mills all agreed metallized sand rolls were durable and efficient on all types of fabrics tried. The metallized rolls do not affect the picks per inch in the cloth so long as the effective diameter of the roll remains unchanged after metallizing. Everyone further agreed that the face or appearance of the cloth remained unchanged when run on the metallized sand rolls.

Mixed Filling. Eleven mills answered a question regarding the steps taken to prevent mixed filling. Five said chalk marks were employed to prevent mixed filling; two used color marks; three used tags; and one used a "code" on bags and loom boxes.

According to those answering the question, the following methods were adopted to help control waste filling: fix looms, make good bunches on quills, obtain standard number of ounces on each quill, check looms for throw-outs, and examine waste to determine and remedy cause.

Diehl Drives. Experiences with Diehl drives were as follows:

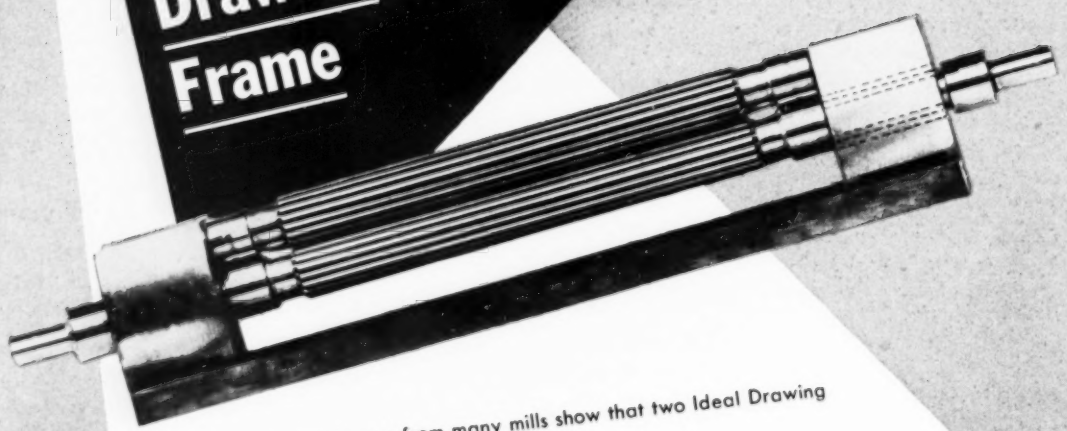
Mill B. We have 93 looms equipped with Diehl drives that have been running two shifts daily for the past twelve months without any trouble. However, they do require proper lubrication and a very close setting. Gears are checked every three months. We are now turning gears for the first time, and the gears show very little wear. We believe the gear which drives the crank shaft will last three or four years.

Mill C. In the early application of the Diehl drive we had considerable bearing trouble which has now cleared up. We use a conventional gauge and check settings by using paper to check the mesh.

Mill J. Our experience with

ATTENDANCE at the meeting was good, and voluntary answers to the questions were offered by members of the audience.

Ideal High Speed Ball Bearing Drawing Rolls* Produce More Drawing Per Frame



Actual production figures from many mills show that two Ideal Drawing Roll Units outproduce three of other types.

Faster Speeds — Ball Bearing construction and permanent alignment and synchronization permit continuous high speeds which are impossible on other drawing equipment.

Continuous Operation — Hardened and ground fluted rolls never nick or burr to cause ball-ups and frame stoppages. They also eliminate the frequent taking down, cleaning, reconditioning, scouring, removing burrs, and oiling which are necessary on conventional drawing. They not only run faster but they run more hours per year.

Ideal Drawing Rolls also produce better roving and cut costs. When the Ideal Evener Motion, which was shown at Greenville, is in production it can be added to this equipment.

Write or wire for full information.

*Patented

Ideal Industries, Inc.
Bessemer City, N. C.

WEAVING forum was presided over by R. L. Alford, Alabama Mills, Aliceville, Ala.

Diehl drive was in 1950. The clutch pressure was great and there was no slip on the pick, causing a lot of wear on transmitter gear. We tried several kinds of grease. Drives were greased twice each week. The gears showed a lot of wear in 90 days. Gears were turned every 90 days until we found the right lubricant which reduced wear considerably. There was no trouble with the drive, just wear on gears.

Plastic Quills. Experience with plastic quills was limited; only two mills had tried them, and one of these gave an oral report at the meeting. In one instance a comparative test was made on 1,000 plastic quills. No trouble was experienced with rings after the quills ran awhile. Crooked quills were noted but the cause was not determined.

At the meeting one man stated that his mill had tried 900 quills which ran good on frames. These quills were later mixed with other quills and most of them gradually disappeared. It was explained that many were given away as souvenirs and samples. In this instance 9,000 more plastic quills were ordered for further trial. No warpage was noted, and a Terrell quill stripper operated satisfactorily with the plastic quills.

HAT WINNERS!

Robert White, Fairfax, Ala.
Roy Satterwhite, West Point, Ga.
Charlie Jones, Opp, Ala.

New Vinyl-Coated Fabric Backings Permit Variety of Constructions

Manufacturers of vinyl-coated fabric and vinyl sheeting are styling and engineering their upholstery materials to meet the fashion preferences of the American consumer and the production problems of the furniture manufacturers, the Plastic Coatings & Film Association reported recently.

The construction of currently available vinyl upholstery material has been further diversified by the introduction of new woven and non-woven backings. The broad range of available backing for vinyl-coated materials now includes nonwoven nylon, knit fabrics, sheetings, drill, broken twill, sateen, felted wool. Another new construction has a transfer cast vinyl surface with color and design sealed between the clear vinyl and the fabric backing.

Vinyl sheeting is also being engineered to meet the particular requirements of upholstered furniture manufacturers. The vinyl formulations employed are designed to afford the wear, handling, and appearance characteristics essential to each upholstery application.

How Rate of Carding Affects Combed Yarns

The fifteenth in a series of reports concerning the relationships of cotton fiber properties to performance in processing and quality of manufactured product was recently published by the United States Department of Agriculture.*

Findings contained in the report are believed by the authors to fulfill certain gaps in existing knowledge concerning rate of card production as a factor in the processing of cotton, and to provide a basis of assistance for making more comparable interpretations of experimental and commercial spinning data, identified with any rate of carding over a comparatively wide range for a given set of card settings and speeds, than heretofore has been possible.

Fiber and spinning data representing eight American upland cottons, two American Egyptian cottons, and one Egyptian cotton, selected as being typical of 11 leading varieties grown in commercial production at the present time, were used in the correlation analyses of this study.

Each upland cotton was processed through the card at four different rates of production: 3.5, 6.5, 9.5, and 12.5 lb/hr. Egyptian and American Egyptian cottons were carded at 2.0, 3.5, 6.5, and 9.5 lb/hr. Each of the 44 lots was spun into three sizes of combed yarn: 36s, 50s, and 80s.

It was found that rate of card production:

(1) Did not cause a statistically significant effect on strength of any size of combed yarn or on count-strength product of all sizes of yarn. In all cases there was tendency for strength of yarns to be slightly lower the faster the rate of card production.

(2) Caused a statistically significant effect on appearance of each size of combed yarn and on collective appearance of all sizes of yarn. In all cases the faster the rate of card production, the lower was yarn appearance.

(3) Made a statistically significant contribution to the number of neps per 100 sq in. of card web. The faster the rate of carding, the larger was the nep count of the card web.

(4) On manufacturing waste varied, depending on whether card waste, comber waste, or total card and comber waste was involved. The faster the rate of carding, the smaller was the percentage of card waste, the larger was the percentage of comber waste, and the smaller was the percentage of total card and comber waste. The effect of rate of carding, however, was statistically insignificant for total card and comber waste.

*"Relation of Rate of Carding and Factors of Cotton Quality to Strength and Appearance of Combed Yarn, Neps in Card Web, Card Waste, and Comber Waste," by Robert W. Webb and Howard B. Richardson, March, 1953.

How to REDUCE DEFECTS in the TEXTILE PLANT

Checking spindle speed with stroboscopic light insures the uniform winding of yarn on any desired number of spindles . . . tensions, sizes and hardness of packages, twists and twist take-ups are in this way readily kept consistent.

The G-R Strobotac and Strobolume are instruments very well adapted for study of textile operations. By simply directing the accurately controlled, repetitive light flashes at any rotating or reciprocating object, the part is seen in s-l-o-w motion . . . while the machine is running at rated speed.

Defects such as slack or dirty bands and tapes, crooked idlers, tightness of spindle-spring pressure, split or crooked bobbins, bad rings or worn travellers, ring rail not level and thread in worl are easily detected and remedied. In the weave room, observation and alignment can be made on such operations as: entrance of shuttle into shed, flight and boxing of shuttle, looping of filling, contact of filling feeler and bobbin, transfer of bobbins, action of cutters, flexing of picker sticks, and countless others.

No other single device has aided production as have these simple to operate, relatively inexpensive and accurate electronic instruments. The Strobotac or Strobolume, whichever you require, very rapidly pays for itself in production time saved, improved quality and reduction in defective output.

G-R Type 631-B Strobotac — a general purpose electronic tachometer . . . requires no electrical or mechanical connection to moving shaft or spindle . . . *Complete and ready for operation* . . . **$140.**

Range — *600 to 14,400 rpm direct reading — to 100,000 rpm by use of "multiple images" — Type 631-BL measures down to 60 rpm as well*

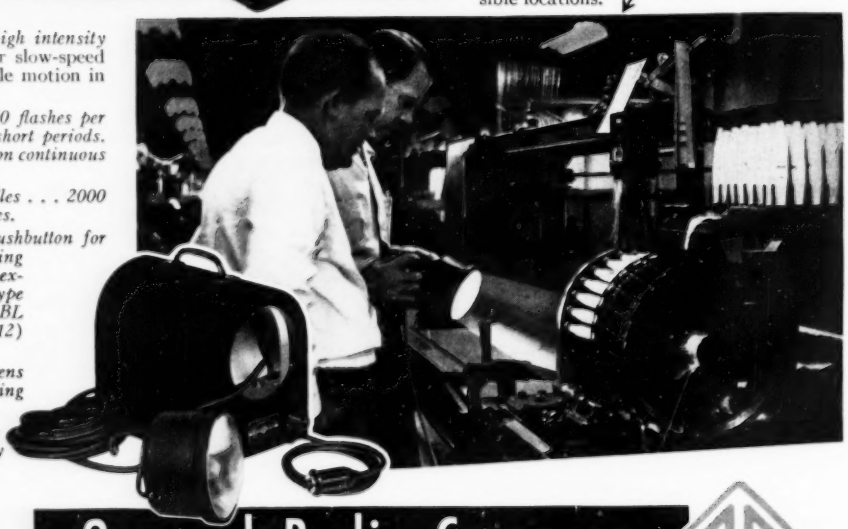
Accuracy — *1% of dial reading over most of range*

Flash Duration — *5 to 10 millionths of a second*

Portability — *dimensions are 7½ x 8¾ x 9⅞ inches — net weight, 9½ pounds*

← Strobotac examines balloons and checks speed of Atwood twisting spindles while machine runs at rated speed.

Studying shuttle motion in loom with stroboscopic lamp housing, which is detachable from the Type 1532-B Strobolume. Ten-foot cable from instrument chasis to lamp enables reaching otherwise inaccessible locations. ↙



G-R Type 1532-B Strobolume — a *high intensity* stroboscopic light source intended for slow-speed applications such as analysis of shuttle motion in looms . . . **$265.**

Flash Range — High Intensity: *up to 60 flashes per minute, continuous — up to 1200 for short periods.* Low Intensity: *up to 3000 per minute, on continuous operation*

Flash Intensity — *8 million beam-candles . . . 2000 times as intense as ordinary stroboscopes.*

Versatility In Operation — *Cable with pushbutton for manual flashing is provided — flashing rate may be controlled by either an external contactor, such as the G-R Type 1535-A Contactor, or by the Type 631-BL Strobotac with Type 1532-P2 Cable ($12) for interconnection*

Safety Feature — *Overload breaker opens circuit when maximum safe operating time is reached.*

Compactness — *7½ x 13 x 11 inches 18½ pounds overall — lamp assembly weighs only 2 pounds.*

Write for complete information on Stroboscopes in Textile Plants

General Radio Company

275 Massachusetts Ave., Cambridge 39, Massachusetts

90 West Street NEW YORK 6 | 920 South Michigan Avenue CHICAGO 5 | 1000 North Seward Street LOS ANGELES 38

Guard Against Electrical Fires!

By C. F. HEDLUND*
Chief Electrical Engineer
Factory Mutual Engineering Division

ELECTRICAL EQUIPMENT in the textile industry has improved in many ways over the years but insufficient attention has been given to eliminating the fire hazard aspects. The increase in complexity and quantity of electrical equipment in occupancies where highly combustible materials are involved has caused considerable increase in fires due to electrical causes.

In the period 1940-1949, fires due to all causes in cotton mills totaled 7916, with a property damage amounting to $4,178,000. These statistics cover only those fires for which claims were made and which occurred in plants insured by the Associated Factory Mutual Fire Insurance Companies. The facts show a definite need for improvement in the electrical equipment and installation in textile plants.

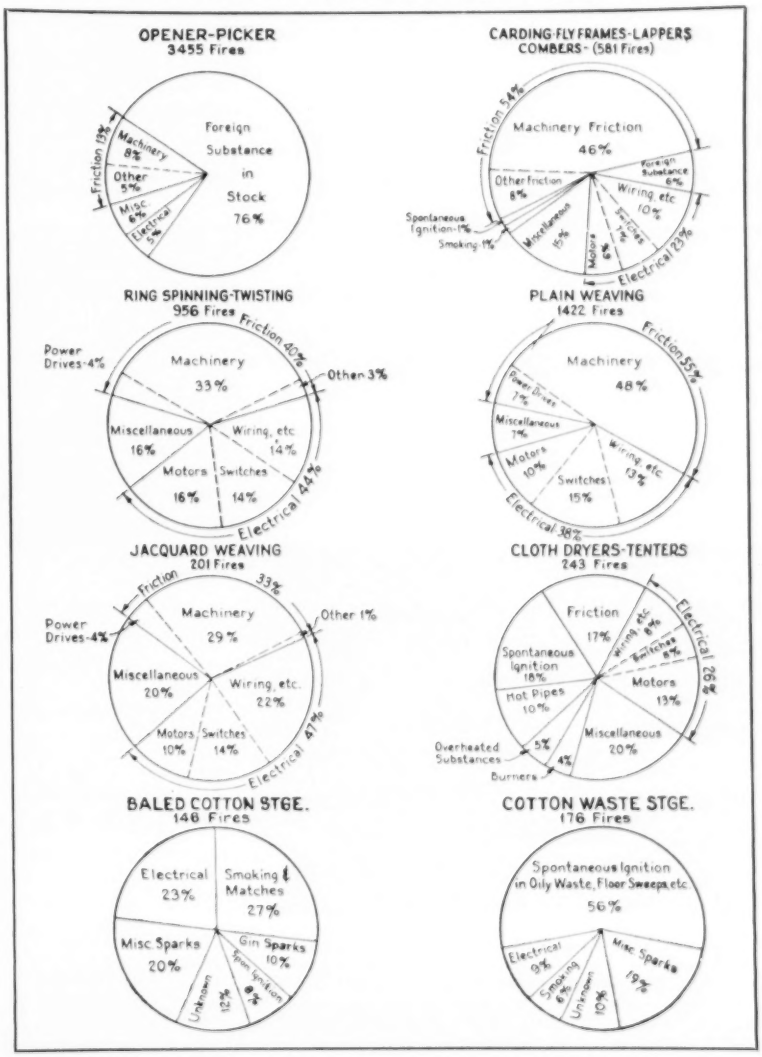
Refer to Fig. 1 for break down of fire causes.

Engineering Considerations. In order to be sure that proper electrical equipment is selected, the basic physical constants of the textile machine must be known, as well as the characteristics required in the electrical equipment. These two factors should be integrated by those best qualified to do so. Some of the larger mills have engineering staffs qualified to perform work of this nature. Other mills do not, and they should seek the advice of the textile machine manufacturer and electrical supplier before installing such apparatus. The fire insurance companies should also be consulted.

Selecting a Motor. Horsepower, voltage, speed, and speed torque characteristics of the motor should be known. A Class "B" squirrel cage motor gives a hammer-blow start and accelerates rapidly. It cannot be applied to a machine where the repeated starting shocks are likely to cause wear or damage. Slow start and controlled acceleration are necessary to eliminate starting shock in many cases, although spinning frames, combers, pickers, and opening machines are still started at full voltage using a squirrel cage motor with high starting torque, with little trouble. Wool and worsted spinning frames, spoolers, roving frames, twisters, and reels usually require a slow or controlled acceleration.

Woolen cards require smooth starts and a very heavy torque to get them moving. This torque must

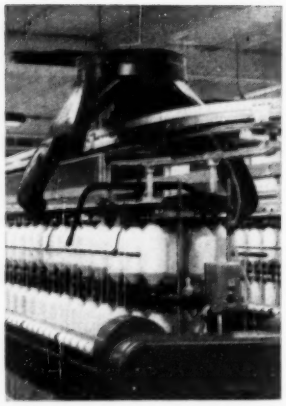
FIG. 1. Fire causes, major cotton occupancies, 1940-1949.



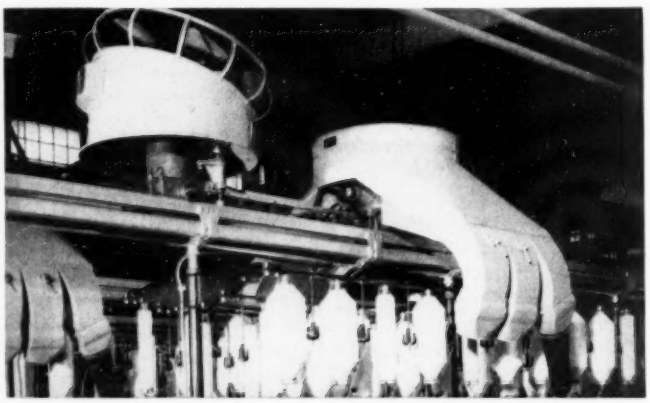
*From paper presented before New England Textile Electrical Conference, Sheraton Plaza Hotel, Boston, Mass., May 1.

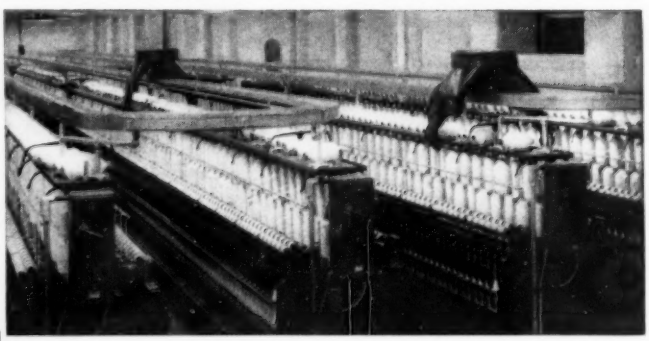
Reduce Costs and Improve Product with Parks-Cramer Traveling Cleaners

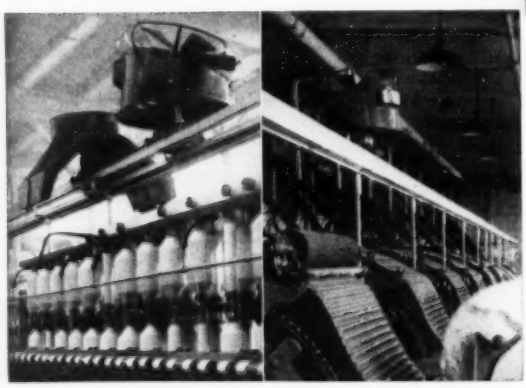
Traveling Cleaners remove lint from spinning frames and other textile machinery more thoroughly than by hand. Units run on track just above frames and direct blasts of air downward over the machine surfaces. Motion along track is either continuous or reversing to suit machinery layout and required cleaning period. Air distributors are of various sizes and shapes. Air volume, velocity and direction are adjustable. Electric conductors are enclosed and insulated for safety.



When **Flexible Cuff** extensions are used on Parks-Cramer air distributors, air blasts may be directed to relatively inaccessible or low down areas for more effective cleaning.







The **Up-draft Cleaner** improves textile mill housekeeping. Air blast is directed diagonally upward and revolves in a complete circle as the unit travels. Overhead surfaces are kept as clean as the frames.

PARKS-CRAMER TRAVELING CLEANERS have been used successfully since 1929. **17,000,000 spindles can't be wrong.**

•

Parks-Cramer

Certified Climate and Cleaning Systems

Fitchburg, Mass. . . . Charlotte, N. C.

be applied gradually because of the close settings throughout the machine, otherwise damage may result due to springing of shafts and the card sides. Special controls and motors are available which will start and accelerate these machines with little trouble.

Where frequent stopping and starting are required, the proper motor must be selected in order to prevent high current and excessive losses during starting causing windings to overheat. Class "D" squirrel cage motors should be used for such installations.

In areas where there is little or no lint, standard open motors will give good service with reasonable attention. In areas with considerable lint, such a motor is dangerous. Sparks from short circuit in the windings, or failures due to overheating resulting from clogging of the ventilating passages, and friction due to accumulation of lint inside the motor usually result in fire. A motor with smooth windings and large air passages designed so that lint will blow through the motor is far safer. The totally enclosed motor is the preferred type.

Drip-proof, splash-proof, and totally enclosed fan cooled motors are not suitable for linty occupancies as they clog easily and require a good deal of maintenance. Some manufacturers of electrical equipment are extending the line of totally enclosed non-ventilating motors to include larger sizes (above 15 hp), and smaller frame sizes for 3 hp and up motors. Some are being built with special means of cooling.

Selecting Electrical Equipment. 1. Wiring. Preferred — rigid metal conduit. Electrical metallic tubing acceptable unless subject to vibration, corrosive conditions, or mechanical abuse. On machinery, Type SO or ST (flexible cord with tough oil resistant jacket) where vibration is problem. Watertight type connectors should be used with the cord. Oil exposure—insulation should be oil resistant, water tight connections, and stranded wires if vibration is a problem. Bus-duct should not be installed in hazardous operating areas, but non-ventilated lint-tight bus-duct is acceptable in moderately hazardous areas.

2. Controllers, switches, fuses, circuit breakers. All spark producing equipment should be in lint tight enclosures (not NEMA Type 1 general purpose enclosures). Attachment plugs and receptacles should be of the type that break the circuit before the plug can be removed.

3. Lights. Should be fixed ceiling or wall units or pipe pendant fixtures. Pipe pendants should have spring supported hangers or swivel joints. Incandescent lamps should have vapor tight or dust tight globes or covers in extra hazard areas and should not be installed in fiber stock bins or dryers. Lamp sockets should be heavy duty keyless type. Under looms use dust tight or vapor tight outer globes. Hot cathode fluorescent lights acceptable in extra hazard areas provided ballasts are enclosed and upper part of fixture enclosing ballast and wiring has no openings. Lamp starters should be kind that prevent ballast from overheating due to repeated attempts of the starter to light deactivated lamp. In moderate hazard areas, ordinary type fluorescent fixtures may be used for overhead lighting.

4. Transformers. Oil filled transformers should be located outside or in separate non-combustible vaults. Sealed dry type or the askarel insulated type may be installed inside but not in extra

Quick Reference Table for Determining Hazard Factors

The proper type electrical equipment, from the fire standpoint, can be selected according to the degree of hazard indicated in this table.

Extra hazard operating areas are those:
Where Fibers I (either alone or in blends with each other or with Fibers II) are worked in Processes III.
Moderate hazard operating areas are those:
Where Fibers I (either alone or in blends with each other or with Fibers II) are worked in Processes IV.
Where Fibers II are worked in Processes III or IV.

FIBERS		PROCESSES	
I	II	III	IV
Easily ignited, readily combustible and produces lint freely	**Not readily combustible and produces little or no lint**	**Considerable lint production**	**Moderate lint production**
Cotton	Hemp*	Opening	Ring Spinning
Flax	Mohair	Picking	Twisting
Jute	Nylon (staple)	Blending	Warping
Kapok	Rayon (Acetate staple)	Carding	Spooling
Orlon (staple)	Silk	Drawing, Lapping and Combing	Beaming
Ramie	Sisal*	Roving Operations	Slashing
Rayon (Viscose staple)	Wool	Mule Spinning	Weaving, Plain and Dobby
Fibers similar to any of the above.	Fibers similar to any above.	Heavy Twisting	Jacquard Weaving of continuous filament
Rope, Burlap, Bagging, Wool Shoddy and similar waste fibers to be reworked.	*Hemp and sisal though readily combustible produce little lint.	Jacquard Weaving of staple fibers	Shearing
		Plush Weaving	Knitting of continuous filament
		Carpet Weaving	Singeing
		Napping	Printing and Calendering
		Garnetting	
		Waste Recovery and Handling	
		Lap Storage	
		Fiber Stock Bins	
		Bat Making	
		Knitting of staple fibers	
		Drying	
		Flock Printing	

Processes using continuous filament fibers of rayon, Orlon, nylon, Vinyon, Velon, saran, and silk do not produce lint and do not require special electrical equipment.

hazard areas. Ventilated dry type transformers are not suitable for lint areas.

5. Materials handling apparatus. Contact conductors should be enclosed or arranged so that short circuits and grounds will not occur. Two current collectors should be used on each contact conductor to reduce sparking when they pass joints, rough spaces, lint, or foreign matter on the contact conductors. Switches and controllers should be lint tight. Heavy duty-, oil-, and moisture-resistant flexible cords (SO) should be used. Hoisting motors should not swivel more than 180 degrees.

"Compulsory" Trade Training Advocated

Much has been said and written in the past few years on Compulsory Military Training but little has been said or done by industry in the line of Compulsory Trade Training. A few companies have gone to the point where they have practically made trade training a must.

Those who have diligently and conscientiously gone into these training programs have found themselves at this time in a pretty good position so far as having properly trained workers available in the many crafts. Many other companies who have neglected this all important feature find themselves in a precarious position. As evidence of this one has but to look at the classified advertising in any city paper. Tradesmen of every kind are in demand in every industrial center and they will continue to be in demand because there just aren't any.

Complete and intensified trade training by industry is a must. The old method of apprentice training is out-moded, slow and cumbersome, and inadequate, and can never keep up with the fast moving developments of industry. Men can and should be trained at all times both during high and low peaks of production. Many companies have done this and are able to have reserve pools of properly trained workers available for peak demands.

This type of program is as compulsory for industry as Compulsory Military Training would be for our country.

From remarks by Chase O. Oren, superintendent of shops and maintenance, Dow Chemical Co., Midland, Mich., during a panel discussion on "Maintenance Essentials" at the Plant Maintenance Conference which was held concurrently with the Fourth Plant Maintenance Show.

Fatigue Cited As Primary Cause of Accidents

Fatigue is the factor that lurks behind the 2,000,000 work casualties requiring lost time and medical attention annually in the United States, John V. Grimaldi, director of the industrial division of the Association of Casualty and Surety Companies, said recently.

The problem of the tired operative is one that has plagued management for years, and its relationship to accidents has long been suspected by safety engineers, Mr. Grimaldi pointed out, in making known the results of a study of the problem.

Only about two per cent of industrial accidents are due to "acts of God," according to Mr. Grimaldi; and the other 98 per cent are due to human failure.

"Beside the accident risk," Mr. Grimaldi said, "it is not exaggeration to say that losses due to fatigue cost industry much more than the dollars it spends for compensation claims. Who can tell how much good will is lost by a badly typed letter produced by a tired secretary? Or how many new orders are lost because the last shipment was not up to the quality desired or how much material and time is wasted in turning out spoiled work? Manpower is the most expensive single factor in production costs, and therefore it is most important to use personnel at top efficiency."

As the results of his study Mr. Grimaldi listed suggestions for the elimination of fatigue.

1. The work assignment should match the physical and mental abilities of the operative, and he should be selectively placed at the proper job.

2. The job should be engineered to produce the maximum efficiency contributable by the employee with such factors as illumination, ventilation, posture, awkward movements, safety and health hazards, noise and general plant orderliness considered.

3. The supervisor should attempt to reduce any possibility of friction between the employees or between himself and the employees. He should make them feel that their job is important to the organization.

4. Speed-up of production should only be undertaken after full consideration has been given to the possible cumulative effects of the increased activity demand.

5. Work weeks in excess of 48 hours on a six-day a week basis should be avoided whenever possible.

6. For monotonous and repetitive work, a five-minute rest period in each work hour should be allowed. For less intensive work, a ten- or 15-minute rest period in the middle of the first and last halves of each shift should prove beneficial. At these times, it is advisable to provide facilities for snacks or hot drinks.

7. Shifts should be rotated infrequently, every two or three months rather than every week or two.

8. Educational programs should be planned which will teach the rules for good posture, hygiene, nutrition, recreation, and relaxation.

everything
you
need
in

Acetate Blacks.....

AMACEL*

Black G. S. – Black IV EXTRA

For the finest **developed blacks** obtainable, more and more quality-minded acetate dyers rely on one of these proven AMACEL blacks. As developed with Developer BON or BONASOL*, either assures better fastness simpler application, greater shade purity.

Both are suitable for box or jig . . . highly dispersed . . . **practically water soluble.** Both are fast to light, gas fading, sublimation, decatizing.

A.A.P., first successful U. S. producer of dyes designed especially for acetate fibres, welcomes the opportunity to study your individual requirements. Technicians from our nearest branch will be happy to provide you with working samples and application data.

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MILL OPERATING EXECUTIVES from all parts of Georgia attended the meeting, and response to the discussion was excellent.

Georgia Mill Spinning Practices

cited by superintendents and overseers at meeting in Atlanta

Staff Report

THE second half of the meeting got underway with discussion on problems and practices in spinning. George McMillan, Crystal Springs Bleachery, Chickamauga, Ga., conducted this part of the meeting.

Non-Lubricated Top Rolls. Only three mills reported experience with non-lubricated top rolls on the middle and back line on spinning frames. Only one frame was equipped with the rolls in each of two mills reporting no difference noted in ends down and cleaning required. One of these mills was running 23s yarn at 163 rpm front roll speed. The third answer to the question noted a slight improvement in quality and ends down, lower cost for picking rolls, and less oiling required. In this instance 20s yarn was spun at 140 rpm front roll speed.

Topics Discussed

Non-Lubricated Top Rolls
Training Operators
Ball Bearing Spindles
Spinning Viscose Staple
Clearers on Roth Spinning
Pin Clearers for Travelers
Cleaning Schedules
Traveler Life
Cleaning Overhead Cleaners
Roll Picking
Spindle Oils
Quality Control
Synthetics on B-C Spooler
Rewound Filling
Controlling Fly

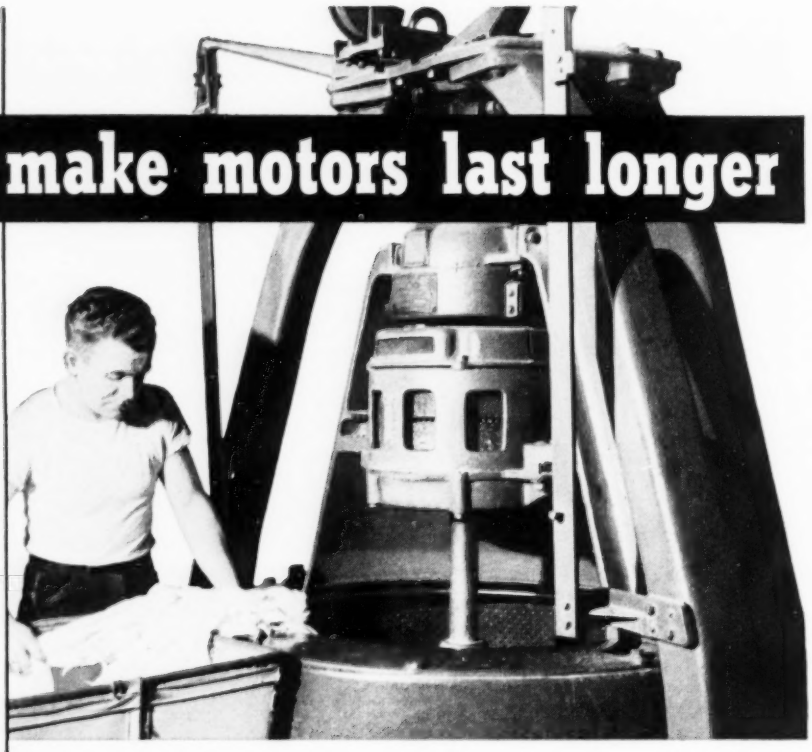
Training Operators. Typical answers to a question regarding methods used to train prospective spinners and doffers were as follows:

Mill A. When we train a number of spinner-learners (10 to 20) who have been hired over a two to three-week period, we place them under the guidance of a spinner-learner instructor who works under the supervision of the foreman and overseer. This instructor teaches each prospective learner the proper method of putting up ends, creeling roving, cleaning, etc. When the learners become proficient in these operations, they are assigned to part of a spinning job; usually one to two sides. The instructor watches their progress, and as fast as possible they are assigned more sides (up to 75-80% of a job), and eventually they are turned over to the foreman. Practically the same procedure is used for training doffers, except that they are

For report of first half of spring meeting of Textile Operating Executives of Georgia, see TI for June, pages 171, 173, 175, 177, and 179. Carding techniques are presented.

DOW CORNING
SILICONES

make motors last longer



Increase Life of Spin Dry Motor from 3 months to more than 4 years

Take a tip from a guy who had to pay for motor failure out of his own pocket. That guy started out in a basement with the best second-hand laundry equipment he could afford.

In that highly competitive business, the going was tough for both man and machines. The man could take it because he was no ordinary guy. But the 6 hp, open-frame, fan-cooled Class B motor on his largest dryer couldn't take the heat and humidity. Mounted directly above the open spinner bucket and plugged to stop quickly after each 15 minute cycle, that motor failed 4 times in the first critical year.

Each failure cost 5 days in down time; made it necessary to operate the smaller dryer 20 hours a day to meet delivery dates. With no margin to play with, our friend had his 6 hp motor rewound with Class H insulation. That was four years ago. The motor is still working, and the Blue Ribbon Laundry has become a successful business in Battle Creek, Michigan.

In these days of good solid competition, no one can afford needless down time. Class H insulation costs relatively little more than the next best class of insulating materials, and it makes your motors last 10 to 100 times as long as they ever did before. Or you can use Class H to double the power per pound ratio in electric machines.

That's why so many good maintenance and production men, and so many designers of electrically operated machines now specify Class H insulation made with Dow Corning Silicones.

CUT HIGH TEMPERATURE BEARING FAILURE WITH DOW CORNING 44 SILICONE GREASE

In open and single shielded bearings designed for high temperature operation, Dow Corning 44 Silicone Grease has 8 to 10 times the life expectancy of conventional greases. It gives lifetime lubrication in permanently sealed bearings.

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Please send me:

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put under the direction of the doffer instructor.

In training a small number of learners where the quantity does not warrant the expense of instructors, our training is done under the direct supervision of our foremen, who assign the prospective learners to one of the better operators. As soon as the learners are ready, they are assigned small parts of jobs and are pushed up as fast as possible until they become regular operators with full jobs.

Mill V. We put the learners with experienced operatives who teach the learners to run the job. As the learners progress, we allow them to run as many sides as they can. When the learners make more than learners' wages, they are paid accordingly. More frames are added to the job as fast as the learners can take care of them until the job load is 100%, at which time the learners are changed to spinners and/or doffers.

Ball Bearing Spindles. Out of 14 experienced with ball bearing spindles, 9 reports showed no trouble with spindles getting out of plumb, 3 showed some trouble, one had trouble occasionally, and one showed some trouble at first but none now because a torque wrench is used to tighten spindles to 120 inch-pounds.

Frequency of greasing anti-friction spindles ranged from three months to five years.

No one noted any difference in traveler life when using anti-friction spindles, and only two mills had trouble with a "few" spindles sticking. Yarn numbers ranged from 2.65s to 110s; spindle speeds, from 6,465 rpm to 10,000 rpm; front roll speeds, from 87 to 160 rpm; ring size, from 1¾" to 3".

Spinning Viscose Staple. Two reports related experience with viscose staple on H&B 4-roll spinning frames:

Mill K. We run 100% viscose, 1½ denier, 1 9/16" staple, 21s yarn. First we changed the roll setting between first and second roll. We had to discontinue this method because of the 1 9/16" setting between third and fourth roll; we had hard ends. The middle top roll was removed and replaced with a self-weighted roll employing a jump saddle. This runs fairly well, except we have trouble with laps around the second roll. We tried 1 hk single creel roving and 2 hk double. The double creel 2 hk roving is more satisfactory because the lower draft permits better control of the fibers. We tried taking out the small second roll and making a 3-roll system, leaving out the middle top roll and using a self-

GEORGE McMILLAN of Crystal Springs Bleachery led the spinning discussion.

weighted roll and a jump saddle. The ends run fairly well but the fibers cannot be controlled as well as on the 4-roll system.

Mill FF. We run 1 9/16" staple viscose on 2½" rings, using a warp twist multiple of 3.90 and a spindle speed of 6,500 rpm. The following measures improved running conditions:

(1) Proper humidity for each process.

(2) Slow down spinning and roving traverse.

(3) Remove middle weighted roll to eliminate cockled yarn.

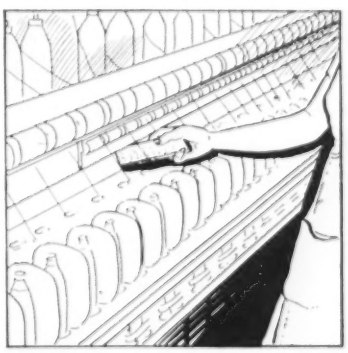
(4) Use front top roll larger than 1" to decrease laps.

(5) Separate cotton processing from rayon to improve quality.

Clearers on Roth Spinning. Eight answers to one question indicated a preference for flat clearers on middle and back rolls on Roth spinning; one preference was for flat clearers on back rolls only; two expressed choice of revolving clearers on front rolls only. In one instance the practice was to remove all but four or five flat clearers from back and middle rolls and move these about to keep rolls clean. One mill used flat clearers which cover all three rolls. Another used only one revolving clearer per side and moved it about occasionally to wipe rolls clean.

Pin Clearers for Travelers. 26 mills answered a question regarding the use of pin clearers for travelers. Only one answer stated that pin clearers were not necessary for good running work. In seven instances pins were bent toward the ring to secure best results; six mills bent pins away from the rings; three adjusted the pins to suit the traveler size; and five preferred to have the pins remain in the straight position. Four mills failed to specify whether pins were bent or not, and one set the pins parallel to the ring and bent slightly in the direction of traveler rotation to help keep the pins clean.

Cleaning Schedules. Cleaning practices and schedules varied considerably among 26 mills answering this question. The extremes for blowing off frames included a close interval of three times in eight hours on counts up to 30s



and an extended interval of once a week on 10s yarn. There was no correlation between stock and yarn number and cleaning frequency. In most instances detailed cleaning was practiced in addition to regular blowing off, and some mills reported detailed man-

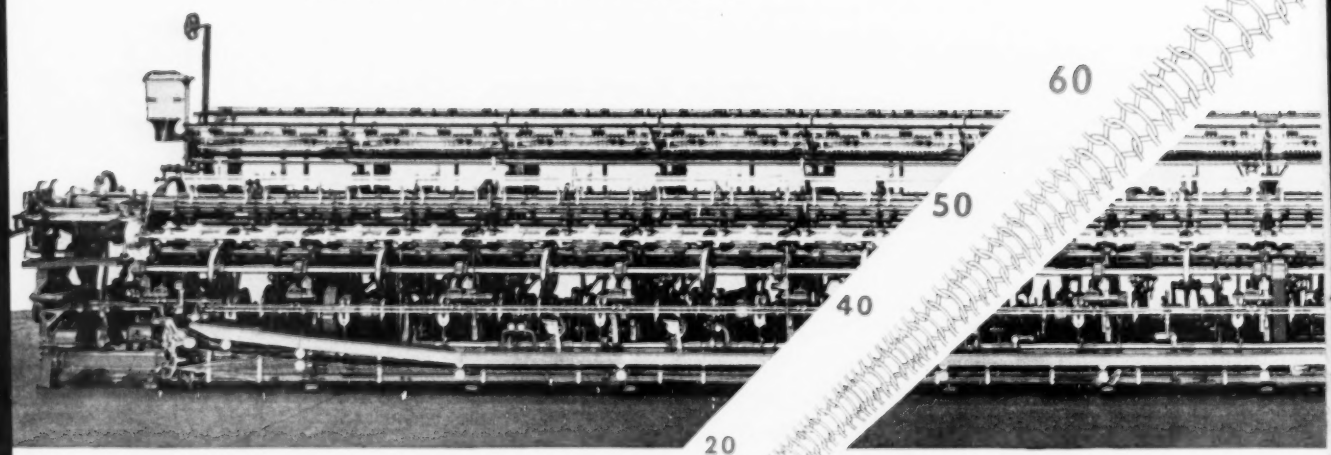
It knits 100 courses per minute

The "READING 100" Full-Fashioned Knitting Machine

A NEW STANDARD IN PRODUCTION

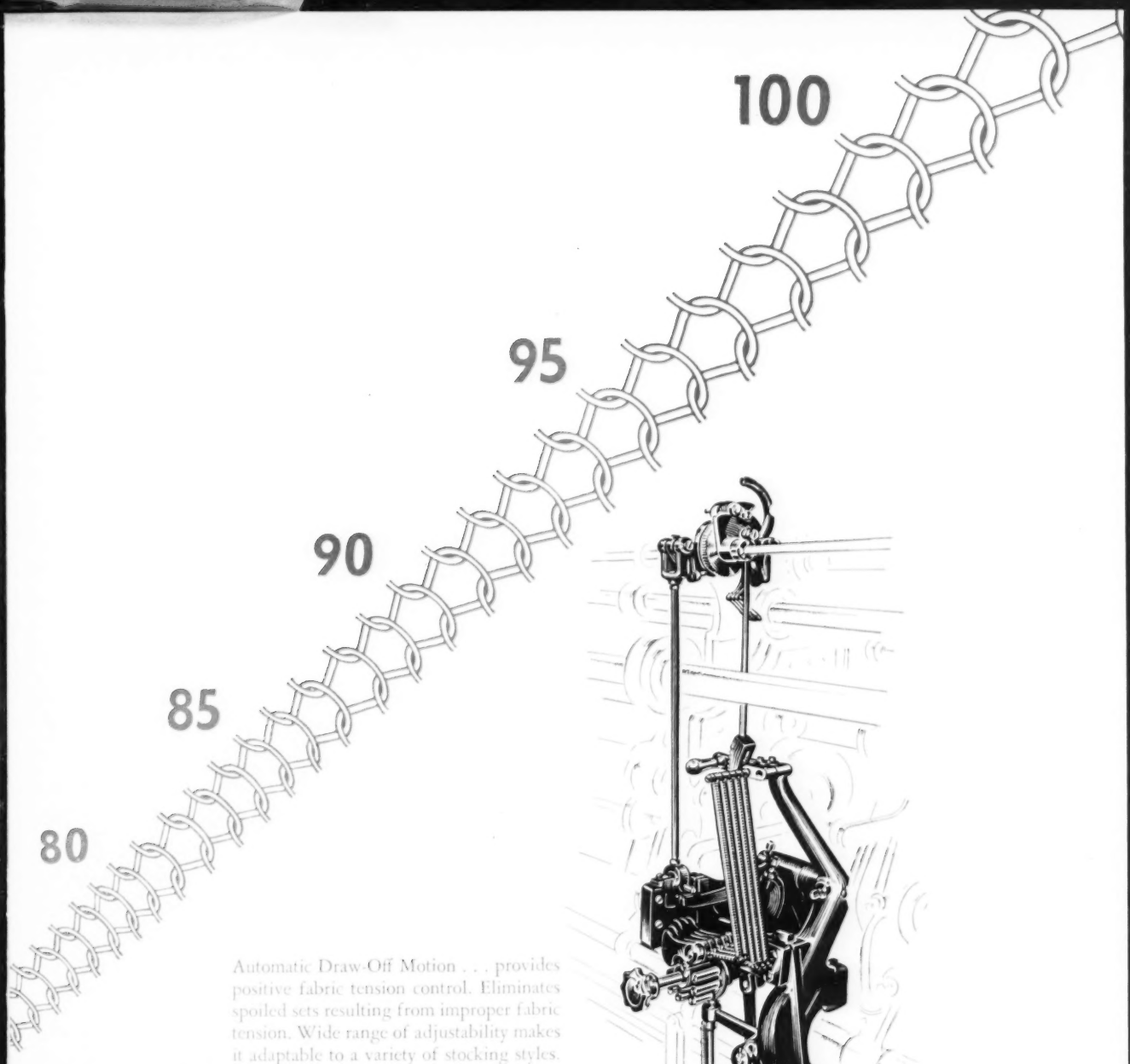
If average knitting speed (cpm) in your mill is	And average production (dozens) in an 8 hour shift is	Estimated production with the "READING 100" per 8 hour shift is	This reduces hours of knitter labor per dozen From	To
76	12	14.9	.66	.54
76	13	16.1	.62	.50
76	14	17.2	.57	.46
78	12	14.4	.66	.55
78	13	15.7	.62	.51
78	14	16.8	.57	.48
80	12	14.1	.66	.57
80	13	15.3	.62	.52
80	14	16.5	.57	.48
80	15	17.4	.53	.46
82	12	13.8	.66	.58
82	13	15.0	.62	.53
82	14	16.1	.57	.50
82	15	17.0	.53	.47

Above figures are based on average 60-Gauge constructions.

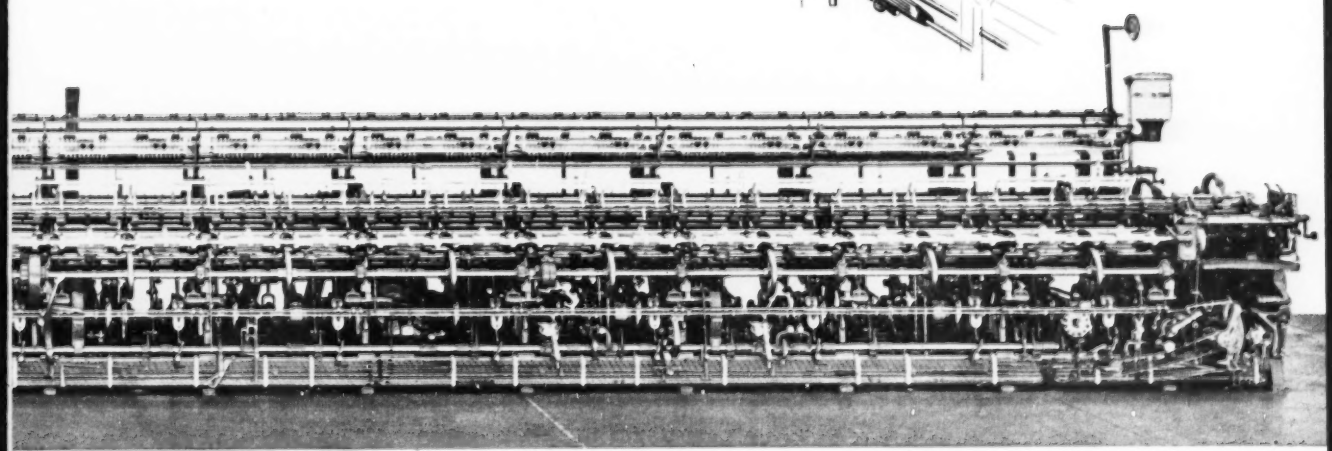


30 SECTIONS

51 GAUGE



Automatic Draw-Off Motion . . . provides positive fabric tension control. Eliminates spoiled sets resulting from improper fabric tension. Wide range of adjustability makes it adaptable to a variety of stocking styles.

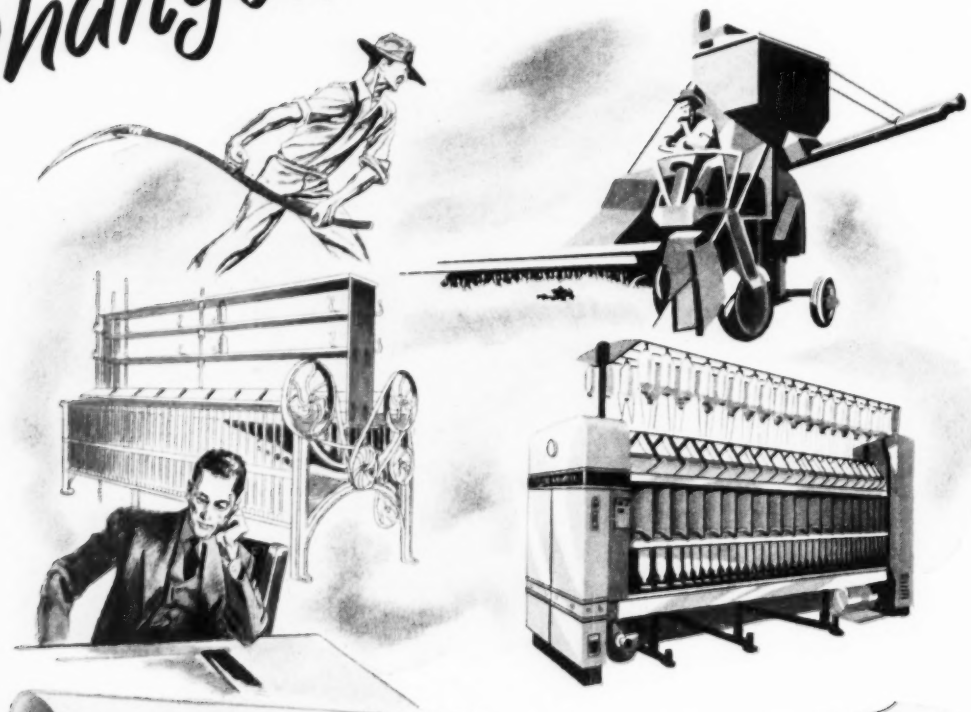


60 GAUGE **TEXTILE MACHINE WORKS** 66 GAUGE

READING, PENNA., U.S.A.

Times have changed....

LIKE THE SCYTHE WHICH HAS BEEN REPLACED BY THE COMBINE — OLD FASHIONED ROVING AND SPINNING TOO, HAS BEEN FORCED INTO OBSOLESCENCE BY OUR TECHNOLOGICAL DEVELOPMENTS.



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ual cleaning without blowing off.

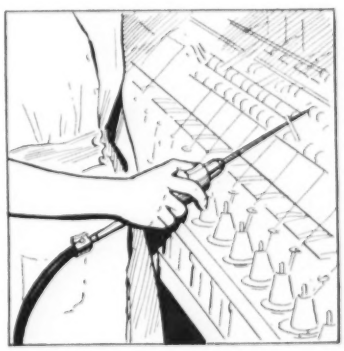
Less frame cleaning was noted in one instance where synthetics were processed. Two other mills noted no difference in the amount of cleaning required on frames processing synthetics.

Cleaning Overhead Cleaners. Cleaning schedules for Parks-Cramer overhead traveling cleaners showed nine mills cleaned them once every 8 hours; eleven mills, once every 24 hours; one, twice each week; two, once each week; and one cleaned on a monthly schedule. 14 mills had maintenance men clean or be responsible for cleaning overhead cleaners, and four had fixers or section men do the job. In one instance others were held responsible for cleaning overhead traveling cleaners, and in another instance sweepers did the job.

Recommendations for minimizing fires by most mills reporting included the following: practice good maintenance, with emphasis on cleaning, oiling, and regular inspections.

In most instances lifter rod bushings were cleaned on a weekly schedule; however, some mills cleaned these bushings every two hours, some annually; and some as necessary. Nine mills did not oil lifter rod bushings, and 13 mills did oil these bushings. About half of those reporting had split bushings on lifter rods, and the others had solid lifter rod bushings.

Roll Picking. There appeared to be no correlation between cotton grade and staple and yarn count and frequency of roll picking. Most of those answering this question picked rolls at 24 to 48-hour intervals. The extreme intervals



for roll picking were eight hours and once each week. Yarn counts included numbers from 3s to 110s; cotton staple ranged from 7/8" to Egyptian.

Oiling schedules for front rolls ranged from 24 to 144 hours on conventional rolls and 18 months on needle bearing rolls. Middle and back rolls were oiled at intervals from 72 hours to 240 hours.

Spinners' sides were increased 7% to 260% upon removing cleaning as part of the spinners' duties. Roll pickers clean from 3½ to 7 times the number of sides run by spinners.

Spindle Oils. Seven mills out of 13 do not change oil on conventional spindles. Six others changed spindle oil at intervals from six months to two years. Four mills reported experience with detergent oil and had obtained good results with less gum in bolsters and also fewer stuck spindles.

Quality Control. Tolerance on yarn numbers in various mills ranged from plus or minus one per cent to plus or minus three per cent. Corrective measures taken to stay within yarn number

DATA ON TRAVELER LIFE

Mill No.	Yarn No.	Ring Size (in.)	Ring Flange	Ring Age (yrs.)	Gauge (in.)	Traveler No.	Hrs. Run	Spdle Speed (rpm)	Traveler Speed (fpm)
E	4-20	2-1/8	—	—	3	4-42	144	2,500 to 9,300	5,000
E1	8	2-1/8	2	7		14	144	7,412	
	16	2-1/8	2	7		8	144	7,412	
	20	2-1/8	2	7		7	144	8,085	
	28	2-1/8	2	7		3/0	144	8,897	
E2	12	2-1/4	2	12	3	8	96	8,500	
F	10	2-1/8	2	2	3	9	96	6,507	3,620
	14	2-1/8	2	2	3	7	96	8,321	8,321
	7.25	2-1/8	2	2	3	20	96	6,507	3,620
I	31	2	—	—	3-1/2	3-0	144	9,450	5,000
	25	2	—	—	3-1/2	2	144	8,475	4,500
	41	1-3/8	—	—	3-1/2	9-0	144	9,550	3,750
J	58	1-3/4	1	1	3-3/4	12/0	—	10,000	4,582
	110	1-3/4	1	1	3-3/4	21/0	—	9,500	4,352
K	19.5-25	2-1/4	No. 1	1-5	3-1/2	1-6	144	9,000	5,300
	30	2	No. 1	1-5	3-1/4	5/0	144	9,000	4,700
L	21	2-1/2	No. 2	1	4	2/0	72	8,892	5,600
	17	1-5/8	No. 2	18	3-1/2	4	120	7,720	5,600
M	24	2-1/2	2	2-1/2	3-1/2	2/0	120	8,500	5,000
P	30	2	2	5	3	5	144	8,349	1,500
	22	2-1/4	2	6	3-1/2	8	144	6,797	1,500
	10	2-1/2	2	1/4	3-1/2	12	144	6,265	1,500
R	14	2-1/8	2	4	3	10	96	8,300	4,720
	16	2-1/8	2	4	3	7-8	96	8,300	4,720
S	13	2-1/2	—	—	3-3/4	10-1/2	190	7,945	5,200
	17	2-1/2	—	—	3-3/4	8	190	8,825	5,295
	18	2-1/2	—	2-4	3-3/4	7	190	8,820	5,295
T	24	3-1/8	No. 1		3-1/4	3	144	9,300	5,200
	31	1-7/8	No. 1		3-1/2	1/0	144	10,200	5,200
	40	1-3/8	No. 1		3	9/0	144	9,600	5,200
U	14	2-1/8	No. 2	5	3-1/2	8	92	9,012	5,000
	17.25	2-1/8	No. 2	5	3-1/2	7	92	8,501	5,000
	23	2	No. 2	5	3-1/2	3	92	9,121	5,000
V	20	2-1/4			4	4	96	9,110	5,400
	15	2-1/2			4	8	96	8,802	5,800
	30	2			3-3/4	1	120	9,147	5,000
W	6	1-3/8	2	—	2-3/4	26	120	5,400	1,945
	20	1-3/8	2	—	3	5	120	8,460	3,050
	9.5	2-3/4	2	1	4-1/2	10	120	7,350	5,290
	15	2-1/2	2	—	4	8	120	8,490	5,550
X	10	2-1/2	2	—	3-1/2	12	96	7,786	—
	15	2-1/2	2	—	3-1/2	8	96	7,348	—
	20	2-1/4	2	—	3-1/2	3	120	9,675	—
	29	2-1/2	2	—	3-1/2	4/0	48	10,447	—
Z	10	2-1/2	2	4	4	12	96	8,000	5,600
	12	2-1/2	2	4	4	10	96	8,000	5,600
	13.5	2-1/2	2	4	4	9	96	8,000	5,600
CC	12	2-1/2	2	1-1/2	3-3/4	10	120	8,070	—
	14	2-1/4	2	1-1/2	3-3/4	8	120	8,106	—
	22	2	2	1-1/2	3-3/4	3	120	8,561	—
	7.5	1-9/16	2	1-1/2	3-3/4	14	144	5,229	—
	11	1-9/16	2	7	3-3/4	11	144	7,671	—
	22	1-9/16	2	7	3-3/4	2	144	9,522	—
FF	8	2-1/2	No. 2	7	4	16	48	7,100	5,200
	10	2-1/2	No. 2	7	4	12-1/2	48	7,600	5,200
GG	11.5	2-1/4	No. 2	2	3	9	72	7,644	5,200
	14	2-1/4	No. 2	2	3	6	72	7,644	5,200
	21	2-1/4	No. 2	2	3	2	72	8,813	5,200
HH	8	2-1/2	No. 2	6	4	15	144	6,150	4,025
	12	2-1/2	No. 2	6	4	10	144	6,850	4,483
II	60	2	—	—	3	8/0	216	9,000	4,000
	80	2	—	—	3	12/0	216	9,000	to
	90	2	—	—	3	16/0	216	9,000	5,000
	100	1-5/8	—	—	3	18/0	216	9,000	
	120	1-5/8	—	—	3	24/0	216	9,000	
JJ	12	2-1/16	No. 2	3	3	6	144	8,040	
	7	1-5/8	No. 2	3	3	14	144	6,900	
	3.5	1-5/8	No. 2	3	3	34	144	5,920	

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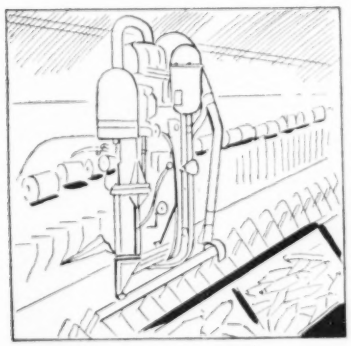
tolerance included: make daily lab check, change draft gears, make changes in card room, and control weight of picker laps.

Everyone answering the question stated that dumping yarn into the spooler trough was a manual



operation. The number of pounds handled per shift per man varied from 5,000 pounds to 10,000 pounds.

Synthetics on B-C Spooler. It was agreed that the best speed to run synthetics on Barber-Colman spoolers is approximately 900 yards per minute and breaker type snick plates are best. Recommended snick plate settings were: .030 for 20s to 23s; .018 for 21s; and .021 for 17s.

Rewound Filling. Only four mills reported experience with rewound filling. It was generally agreed that rewound filling helped improve quality, reduced filling breaks, gave a reduction in burling costs, increased yarn on package, reduced waste, and also permitted increased job loads for battery fillers, quill strippers, and filling hauler.

MEASURES TO CONTROL FLY IN SPINNING

(1) Employ low drafts
(2) Run uniform staple
(3) Maintain constant humidity
(4) Maintain high humidity
(5) Maintain constant temperature
(6) Enforce cleaning schedule
(7) Use correct twist
(8) Employ right speed
(9) Use overhead cleaners
(10) Comb out short fibers
(11) Use correct roll settings
(12) Use low spindle speed
(13) Reduce air currents
(14) Put more oil in stock

Dye Can Racks Save Time

One mill formerly had a chain hoist which served package and skein dyeing machines. The hoist suspended the dye mixture in a container above each machine while the operator poured the dye into the machine. This procedure caused considerable lost time because all the machines were served by the same chain hoist, and several machines were kept waiting for the hoist to finish serving the preceding machine.

To solve the problem, a rack was erected for each of the dye machines and located convenient to the machine to be served. Now the hoist simply delivers the can of dye mixture to each of the respective dye kettles, leaves the can on the rack, and proceeds to the next machine without delay. Considerable time is saved by the new arrangement.

New Sock Ideas Build Extra Business

Socks lend themselves extremely well to impulse buying. Extra sales volume can thus be achieved by expanding men's sock wardrobes into entirely new sock classifications. This merchandising technique has been proven by the outstanding success of Esquire Socks which has grown from scratch to second position in branded socks in the short space of six years. Here are a few of its business builders:

(1) "California Weight" Argyles, the first nationally popularized $1 cotton argyle knit under Haddad patents on a non-reciprocating machine. It is a 160-needle, 4-ply, Colorfixt sock making for perfect year-round comfort. . . argyle beauty without argyle bulk for the first time.

(2) "Hi-Backers" . . . an ordinary series of lisle ribs but with a tremendous difference. Here the multi-ply heel pocket is extended upwards on the leg to put extra wear-strength at point where shoe rubs sock. It also gives a right-angle shape to the foot, making the sock conform to the natural foot slant and eliminating wrinkles at the instep.

(3) "Thirsto" spun nylon ribs . . . a conventional staple but with two powerful selling "plusses": a 365-day guarantee against holes caused by wear and a permanent chemical additive to increase moisture absorbency for greater footwearing comfort.

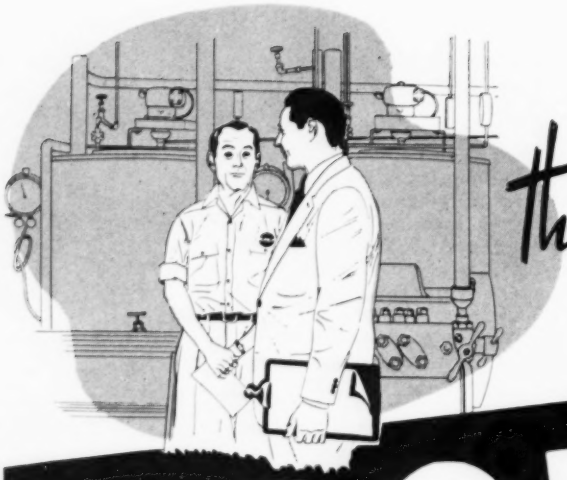
(4) Rubber-sole "PDQ" . . . a new category of sportswear for the feet. Patented bonding of a slab of cushiony rubber extends its market to year-round wear for outdoors as well as indoors.

(5) "Tropikools" of porous cotton mesh and crimped filament nylon give retailers a "third" selling season when warm weather induces men to switch to summer wardrobes.

(6) "Power Arch" athletic sock with the knit-in elastic arch to give a "lift" to any game.

(7) All-nylon "e-x-p-a-n-d-s" sock whose one size expands to fit all feet perfectly. Available in standard rib, heavier links and links pattern, argyles, flat knit clock, and knee length "Bermuda Walker," to cater to all tastes. Packaged in individual miniature box for gift giving, self-selection, and for self-selling via the story imprinted thereon.

From paper by George Guglielmone, vice-president and general manager of Esquire Socks Div. of Chester H. Roth Co., Inc., before the American Association for Textile Technology, Inc., meeting of April 1, 1953.



the Weaver's Friend

KEESTAR PRODUCTS

VICTOR Mill Starch

Always Uniform

...and Backed

by Keever Service

TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Vice President

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

3-1

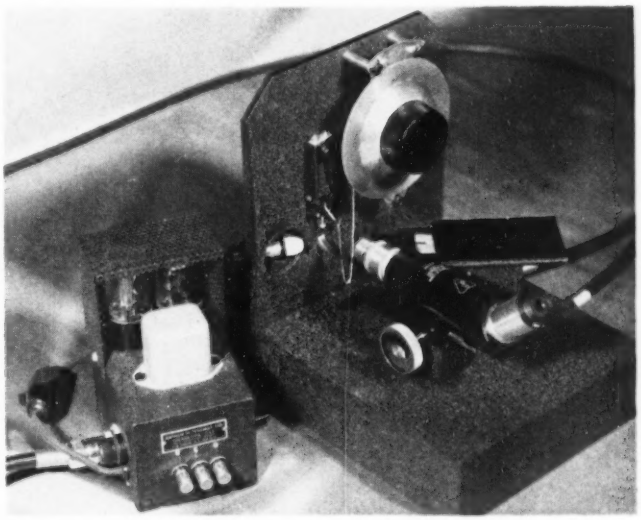
Improved Instrument for Measuring Single Fiber Denier

An improved vibrascope of the constant frequency type used for measuring single fiber denier is faster and easier to operate, according to S. Leonard Dart and L. E. Peterson of the Chemical Research Department, American Viscose Corp.

Utilizing the principle of "the vibrating string," this instrument performs by holding the length of the vibrating section of the string and the frequency of vibration constant while the tension in the string is varied. Advantages said to be derived from this arrangement are:

(1) Denier is given directly in a single measurement without necessity of secondary measurements or calulations and with a minimum of handling of the fibers;

(2) Each filament is loaded the same relative amount (about 0.03 gram per denier). That is, the heavier denier has a greater tension and all filaments are treated in the same relative manner.



(3) Electronic and sonic systems need not be high fidelity and no additional equipment is needed, making cost of total instrument much less.

Description of the details of construction and calibration is available.

Government Contractors, Remember Walsh-Healey Provisions

Managers of textile mills producing yarns and/or fabrics on government contracts are reminded that provisions of the Walsh-Healey Act apply generally to all contracts in excess of $10,000. All contractors—primary or secondary — who are uncertain about the applicability of the Act should make inquiries to the U. S. Labor Department's Wage and Hour and Public Contracts Divisions' national office in Washington or regional offices in one of these cities: Boston, New York, Philadelphia, Nashville, Birmingham, Cleveland, Chicago, Kansas City, Dallas, and San Francisco.

Fulfillment of the statutory requirements of the Act is vital. Among them are:

Minimum Wage Requirements. If an employee works during any part of a day in the workweek on a government contract for which a minimum wage determination is in effect, the rate set by the determination will apply to all his work for that workweek, unless his employer maintains records segregating his government work from his commercial work.

Overtime Compensation: Not less than one and one-half times the employee's basic rate for all hours worked in excess of eight in a day or 40 in a week, whichever is greater. Remember, these provisions apply to an employee in any workweek during which he performs work on a government contract let subject to the Act.

Child Labor Restrictions: Employment of boys under 16 and girls under 18 on government contracts is prohibited. Have on file an age certificate for each minor, showing that he or she is at least the permissable age for employment.

Safety and Health Standards: Contracts will not be performed under conditions which are unsanitary, hazardous or dangerous to the health and safety of employees. Copy of U. S. Labor Department's Bureau of Labor Standards booklet "Safety and Health Standards" will be helpful in this regard; it shows what standards will be applied in determining whether, in specific cases, government contracts are being performed under safe and sanitary conditions.

Record-Keeping and Posting Requirements: Usual records suffice if they contain required information. In addition to such items as name, address, sex, occupation, and date of birth of employees under 19 years of age, wage and hour statistics by day and by week must be maintained for each employee. These records must include among other items, data on basic hourly rates of pay and total daily and weekly straight time and over-time pay. The period during which each employee worked on a government contract must also be recorded.

Records on injury frequency rates need to be kept.

All such records must be preserved for four years from the date of the last entry.

A poster briefly outlining the Act's requirements must be displayed in a place where employees can see it. Affixed to it must be an attachment summarizing provisions of the applicable minimum wage determination.

Abstract of information contained in Management Aids for Small Business, No. 17, Small Defense Plants Administration, Washington 25, D. C.

.....THE MILL CALLED FOR:

Good spinning qualities in dyed orlon tops

The dyehouse delivered a perfect job thanks to Sandoz' Technical Service

• They needed a satisfactory lubricant to counteract the static electricity produced by orlon fibers, which prevented proper spinning of blends containing over 50% orlon. Shade, strength, light and crock fastness of dyed orlon, which are reduced by many lubricants, must be unaffected.

SUGGESTED BY SANDOZ:

Sandoz technicians suggested that Ceranine HC, a cationic product, be used. The tops were treated in a bath containing 1% acetic acid to take care of the alkalinity, and 1% Ceranine HC Conc. The goods were rinsed in this bath after dyeing for 10-15 minutes at 100° F.

Thorough tests showed a marked lubricating effect on the fiber, counteracting the static electricity that caused much trouble in spinning. Also Ceranine HC preserved the shade, light fastness, and crock fastness of the dyed orlon. The finish produced with Ceranine can be favorably compared with cashmere.

If you have a dyeing or finishing problem or would like details on Ceranine HC, call your nearest Sandoz office in Hudson, Mass.; Providence; Fairlawn, N. J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N. Y.

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES

HOW OTHER MEN MANAGE

• Letters to Editor • Technical Discussion •
• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Write to the Editors!

Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta, Ga.

Setting Drafting Rolls

EDITOR TEXTILE INDUSTRIES:

Many times I have been asked how to set rolls on drawing, roving, and spinning frames. I worked many years for a man who believed firmly in exact roll setting, and there was nothing gained by it but work and clean rolls. But it cost the mill lots for just little more than cleaning the rolls and stands.

One time this man was off for several months on sick leave. Knowing how all rolls were set, I was on the job and got tired of changing rolls. I did no more of it but kept the rolls cleaned, and there was no complaint for years after this.

We all know we shouldn't break any fibers, so why put rolls in place to break them? I have run rolls on drawing so wide that the back roll was out from under the top clearers. I have run rolls as close as front roll would go; others back from 1/8" to 3/8" on the same cotton. There was no difference; both broke good. I do think you can set the rolls too close, and this may produce cockled yarn in spinning.

There are several things to consider along with roll setting. Would you think the location of the mill plays a big part in drafting cotton? If the plant is near the coast, the constant sea breeze makes the stock more difficult to draft than it would be elsewhere. Another factor is how the cotton is shipped. If it is shipped by boat, cotton takes on one to three pounds of moisture per hundred pounds, and this makes drafting harder on the rolls, so it is necessary to employ wider settings. But it doesn't matter how cotton is shipped if it is kept in a good dry place.

Did you know cotton grown in low country has more moisture content than the same cotton grown in high country? Cotton grown in high country will produce more yarn or cloth from the same poundage because low country cotton loses from 5 to 10 pounds per bale. You may run up country cotton and change to low country cotton, and you will have to raise the lap weight from 1 to 2 pounds each to produce the hank roving you are set to. If you don't do this you will have to change draft gears on drawing or on roving frames to take up the loss in moisture content in the low country cotton.

Some mills run with more moisture than others, and I know these mills can't use the same roll setting as the mill that doesn't run with so much moisture. Speed plays a part in determining roll

Need Some Extra Vacation Money?

Enter TI's Kink Contest. Winner gets $100 CASH. Details on page 163.

settings; break draft does also. There are no established rules for setting rolls in all mills alike. It is necessary to consider all factors and work out a setting to meet the conditions at each mill.

CONTRIBUTOR NO. 8540

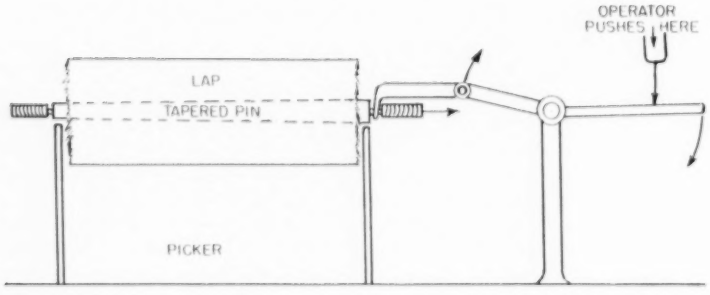
Make Picker Doffing Easy

This item was submitted in a Kink Contest.

EDITOR TEXTILE INDUSTRIES:

The accompanying sketch shows a small unit designed to decrease the time required to doff a picker. Considerably less effort is required to free the pin from the lap. The device has proved helpful to the picker operators in our mill and is especially helpful on synthetic laps.

CONTRIBUTOR NO. 8545



Comments on Fast Carding

EDITOR TEXTILE INDUSTRIES:

Once in a while I read an article on cards wherein someone claims to be doing a good job of carding at 15 to 25 pounds per hour. I have been carding since 1899, and I can't see how anyone can possibly do good carding at any such production rate.

First, the card was not built to operate so fast; 3 to 12 pounds per hour should be the practical limit if good results are expected. On cards with 45″ cylinder operating at 150-160 rpm, the doffer should operate at 7-10 rpm; licker-in at 425-435 rpm. On 40″ cards the cylinder may be operated at 165-175 rpm; doffer at 3-10 rpm; licker-in at 425 to 450 rpm. The 45″ cylinder should not be operated as fast as the 40″ cylinder because there is more expansion in the larger cylinder.

Some carders claim closer settings than they actually obtain. The settings some carders claim would not be safe if they were obtained. A card will do better work if it is not set too closely, and setting one part of the card wrong may throw the entire machine out of adjustment. It is useless to have a card in good condition and improperly adjusted or to operate the card at speeds so fast that the machine is dangerous for a person to be near. Under such conditions it is imposible to do good carding.

I attended a night ball game with a carder not long ago, and he told me how he set his cards and how to run a card room from A to Z. He did not know that his head grinder was sitting close by listening to the conversation. The carder was called to one side by someone who wanted to ask him about work. I told the carder to meet me at the gate. In the meantime the grinder (whom I knew) told me that his boss had given me some erroneous information because his boss didn't know where the draft gear or the production gear was on a card until a couple of months before that day. Furthermore, the grinder told me that less than a third of the cards on the job could be set as they should be. I think mill men should swap ideas but not false tales.

Card settings employed before 1900 are still applicable today. The settings I used were: feed plate to licker-in, 12; mote knives, top 15, bottom 12; licker-in screen, 64; licker-in to cylinder, 7; back plate to cylinder, bottom 22, top 22; screen to cylinder 22; center, 34; front 3/16″; top flats, 10; all points topping plate, top 22, bottom 34; doffer, 7; division plate, 34; topping comb, 10; doffer comb, 29.

Some mill men say we do too much grinding; others say not enough. I think it is necessary to consider the pounds of production first, then staple of cotton and quality goods to be made. I have heard claims that card clothing may be used for 20 or 30 years. Such claims are unreasonable because the wire would be ground to a point below the knee.

Clothing the Card. Many mills have the card clothing manufacturer to install new card clothing. I always installed new card clothing myself. It is worthwhile to condition the card clothing for 24 hours at the card before installing the new clothing on the cylinders. Before installing new clothing, the cylinder, shafts, and bearings should be thoroughly inspected and put in good condition. The card should be level.

Take out all pegs that are not good, and be sure to install a new set of pegs all around at the ends of the cylinders. Then use a surface grinder roll on the cylinders.

Be sure to line this roll from the cylinder shaft. Set the roll to grind the high places, and keep pulling the roll tighter until the cylinders are true. Then mark the peg holes and fasten clothing on peg. Pull clothing tight enough to line up 1/8" from edge of cylinder. Mark clothing with back of clothing knife or wire puller, then slack off gently, and pull wire enough to get at least three tacks in firmly. Set the tacks back to permit cutting the clothing at the center of peg. When the starting point is reached, there will be plenty of room for tacks. Also, this makes a good connection when the taper is cut and tacked.

Start pulling the clothing full width at pounds the maker recommends. Get about half way across and stop. Let the card clother and helpers take a walk. By the time they get back, the clothing will have set. Then start again and chalk mark the clothing. Do not tack until arriving at the place to start the last taper. Then wait about ½ to 1 hour with full pressure applied. At the end of this time the pressure will have dropped 25 to 50 pounds.

Adjust the pressure to the correct figure and tack in several places to hold the clothing while cutting the taper. When a part of the taper is cut and put in place, start tacking, and keep the pressure up until the last tack is in place. Then make a good connection and exercise care to prevent cutting too close to the tacks. Then tack across the cylinder but do not put a tack too close to the edge of the clothing. It is better to skip a peg than to tack too close to the edge of the clothing.

After the cylinder is clothed, the wire should be ground sharp and level. The first grinding should be done with special care. The traverse roll should be level so the wire won't be cut at one end of the cylinder more than the other. If possible, set the traverse roll to .005 at both ends. After this is done, the roll should have to be moved but very little. If the roll is tightened, the adjustment should be the same on both ends. If you don't do a good job on the first grinding, in all probability satisfactory results will never be obtained from this card. I have removed clothing on which the wire was more than 1/8" shorter on one side than the other. Top flats may get in the same condition. If drum or traverse roll band is too tight, additional pressure is applied to the rolls; so the rolls should be set and tightened to prevent the stands from getting out of adjustment.

CONTRIBUTOR No. 8562

Trouble with Electrodes in Dyebath

EDITOR TEXTILE INDUSTRIES:

When using the Redox principle of dyeing, we have had considerable trouble with the electrodes coming apart in the bath. Some of them have lasted only 36 hours, and even the ones which have the platinum tips, instead of wire, have come apart. We have tried to make our own electrodes by sealing the end of a glass tube around the platinum tip, but without success.

We should be glad to hear from other finishing plants where this problem has been solved.

CONTRIBUTOR No. 8563

EDITOR TEXTILE INDUSTRIES:

Referring to the question by CONTRIBUTOR No. 8563, we have had trouble with the electrodes that the instrument companies have furnished us, and they would not last very long without breaking.

However, we have had very good results in making electrodes by using tip and wire from the bought electrodes and making our own by using 25 cc pipettes (pyrex glass).

The sealing is difficult to obtain on the pyrex glass, but if heating is done slowly and evenly, good results can be obtained.

We find a difference in reading in the homemade electrodes and the purchased electrodes. But this is not objectionable because as long as the same reading for con-

Hurry! Hurry! Hurry!

Kink Contest Ends Midnight, July 15, 1953

$100 will be awarded the winner.

Send your entry now!

Every kink, short-cut, time saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, July 15, 1953.

► No limit to the number of entries an individual may submit in any one contest.

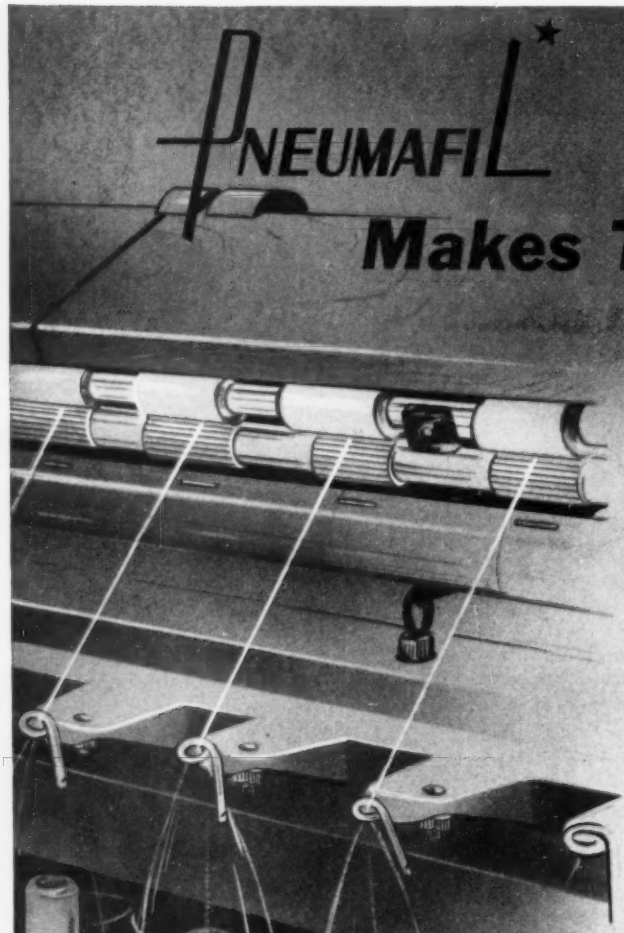
► All entries paid for upon acceptance—no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously.

Send your contest entry to:

Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 5, Georgia.

PNEUMAFIL*
Makes The Difference

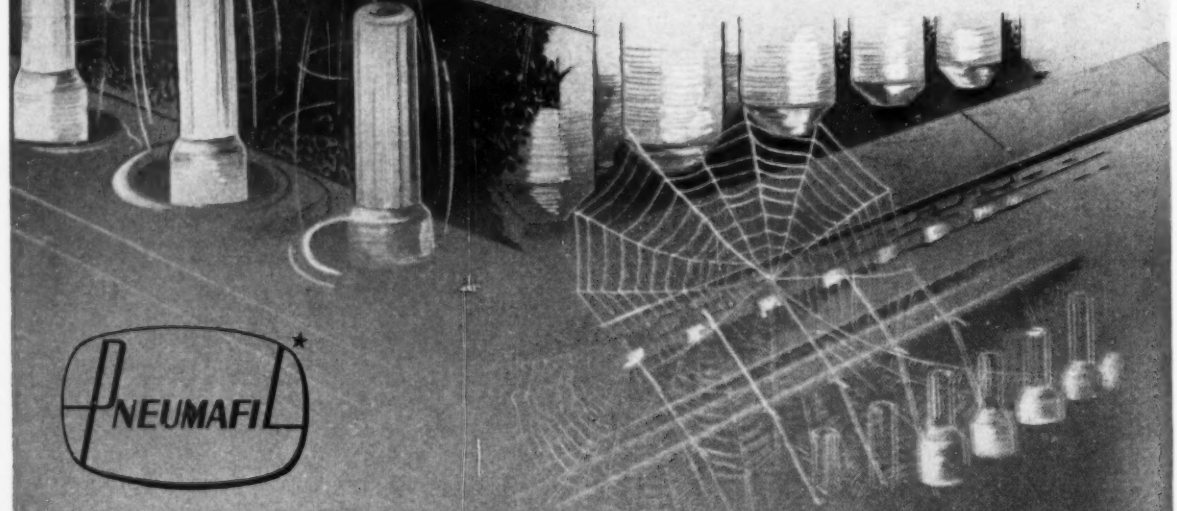


A large mill spinning 30's recently said . . . "One of our mills equipped with Pneumafil* is producing cloth at one cent less per pound than one of our other plants not yet equipped."

Yes, Pneumafil* makes a difference . . . a big difference . . . in lowering costs by making possible the operation of more spindles per operator . . . increased speeds . . . improved quality . . . and better running work.

Yes, Pneumafil* can make the difference between idle spindles or active spindles . . . and between profit or loss. Pneumafil* does make a big difference. . . . Let us show you what it will do in your mill and why. . . .

Pneumafil* is the best investment you can make.



PNEUMAFIL*

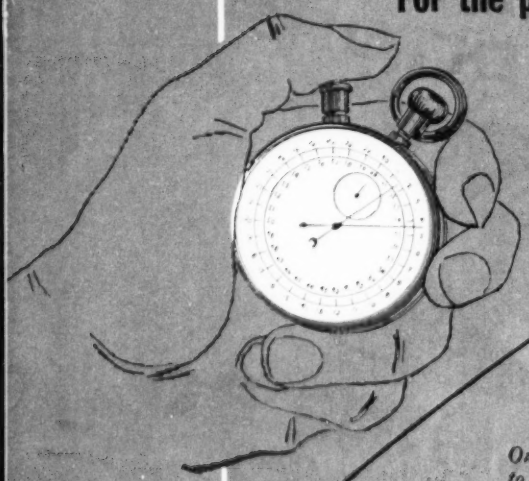
*Trade Mark

PNEUMAFIL CORPORATION • Charlotte 8, North Carolina

Sales Offices: Needham Hts., Mass.—Atlanta

1953 IS OUR ANNIVERSARY

For the past 4 years in GREENVILLE, S.C.



it has been only a matter of minutes to get your orders rolling for

HFL IMPROVED LOOM PARTS

in these two ways:

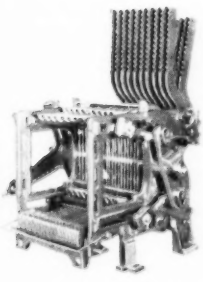
1 **FROM OUR SOUTHERN DIVISION WAREHOUSE**
in Greenville, where we carry a substantial stock of the items most in demand.

Our delighted mill friends tell us that LIVERMORE SERVICE to the Southern mills has been all that one could ask for.

2 **FROM OUR MAIN PLANT**
in Boston, which is connected by direct Teletypewriter for immediate recording of orders.

As the pioneer manufacturer of IMPROVED LOOM PARTS, established 66 years ago, H.F. LIVERMORE CORPORATION will continue to improve the design and the materials used . . . so that HFL IMPROVED LOOM PARTS will always insure minimum cost per yard of production.

Did you see these items, recently advertised?



DOBBY HEAD

THREAD CUTTERS

ROLLING EVENER COMB

HFL
IMPROVED LOOM PARTS

H. F. LIVERMORE CORPORATION — **SOUTHERN DIVISION**

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PERMALENE AF

DURABLE

Applied in the Dye Bath

Produces stable emulsions at all dyeing temperatures without additional emulsifiers — exhausts uniformly with the dyestuff in the same bath — provides a protective finish fast to washing and dry cleaning.

VELVAMINE PG

Applied as a Finishing Agent

Imparts superior protection against atmospheric fading — has no effect on light fastness of acetate colors — gives a soft mellow hand to the fabric.

VELVAMINE PGL

Applied in the Finishing Bath

Imparts excellent protection without appreciable change in hand of fabric — has no effect on acetate colors — is compatible with usual dullers, weighters and resins.

Write for literature

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Canadian Selling Agent: Reliable Color & Chemical Company, 85 Cannon St. W., Hamilton, Ontario
Export Division Manager: Chester Feil, Refined Products Corp.

sistent results is maintained throughout the run, it does not matter if the reading is off a few points.

Someone has suggested that the seal can be made with a special glass solder made up especially for sealing such glass to metal connections. I have not tried it yet. Another suggestion has been made to use tungsten or some other metal instead of platinum in the electrodes, but I have not experimented with anything other than platinum.

CONTRIBUTOR No. 8564

Bent Hoe Serves as Floor Scraper

Submitted in a Kink Contest

EDITOR TEXTILE INDUSTRIES:

Several years ago I was employed in a new hosiery mill that had not started operations. The floor of the newly completed building was covered with splotches of roofing tar, cement, asbestos pipe covering, and other kinds of debris. We had to clean the nicely finished concrete floor that lay underneath the trash, for the waste materials had stuck to the surface.

Several methods were tried, including scrubbing with stiff bristle hand brushes and also an electric scrubbing machine. It was obvious that the floor would have to be scraped, but the use of putty knives proved too tedious. Finally two common garden hoes were obtained from the local hardware store and were heated and bent to the exact shape shown in the photograph. They were found to be excellent tools for cleaning floors, and also many other uses.

The bent hoes have been work savers for the maintenance and cleaning departments. The hoes are useful in scraping chewing gum from floors, working around shrubbery on the grounds surrounding the mill, cleaning around machinery and other inaccessible places.

In shaping the hoe, the bend next to the ferrule should remain intact, but the "U" shaped bend next to the blade should be heated slightly above a cherry red, and then straightened so that it has about the same angle to the blade as a shovel. Do not quench the red hot hoe in water as the metal is self tempering and if cooled too rapidly may crack or break easily.

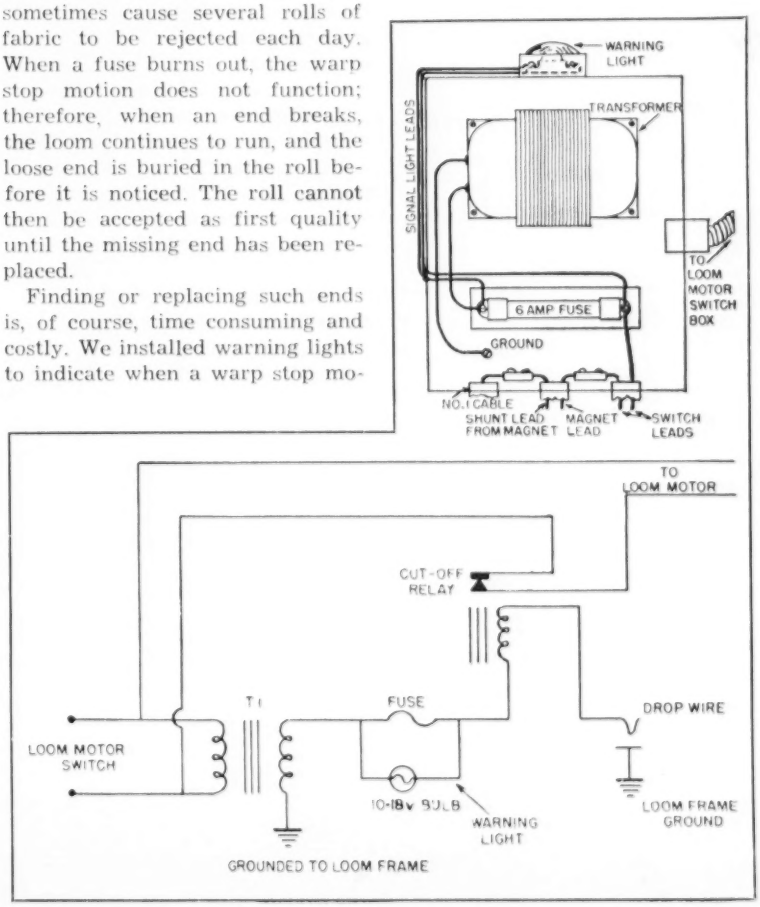
CONTRIBUTOR No. 8556

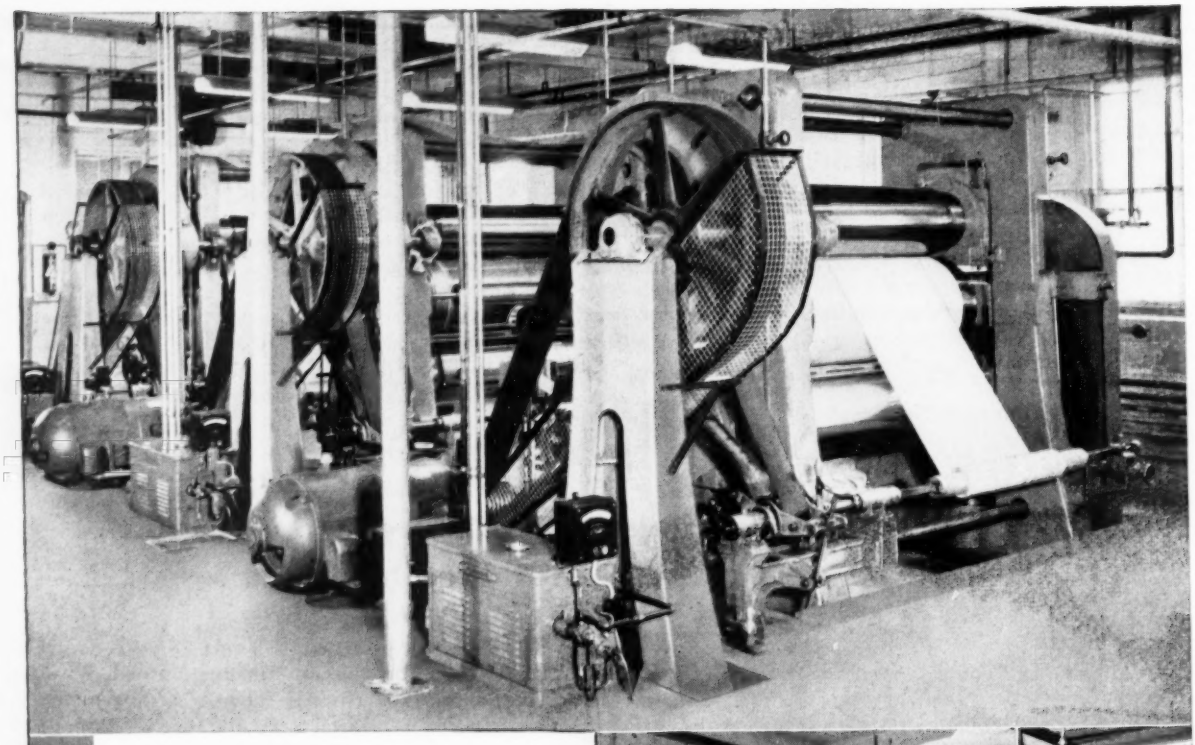
Inoperative Warp Stop Motion Indicated by Light

EDITOR TEXTILE INDUSTRIES:

In weaving tire cord fabric, burned out fuses in the electrical warp stop motions of the looms sometimes cause several rolls of fabric to be rejected each day. When a fuse burns out, the warp stop motion does not function; therefore, when an end breaks, the loom continues to run, and the loose end is buried in the roll before it is noticed. The roll cannot then be accepted as first quality until the missing end has been replaced.

Finding or replacing such ends is, of course, time consuming and costly. We installed warning lights to indicate when a warp stop motion circuit fuse has burned. Wiring circuits for this arrangement are shown in the accompanying





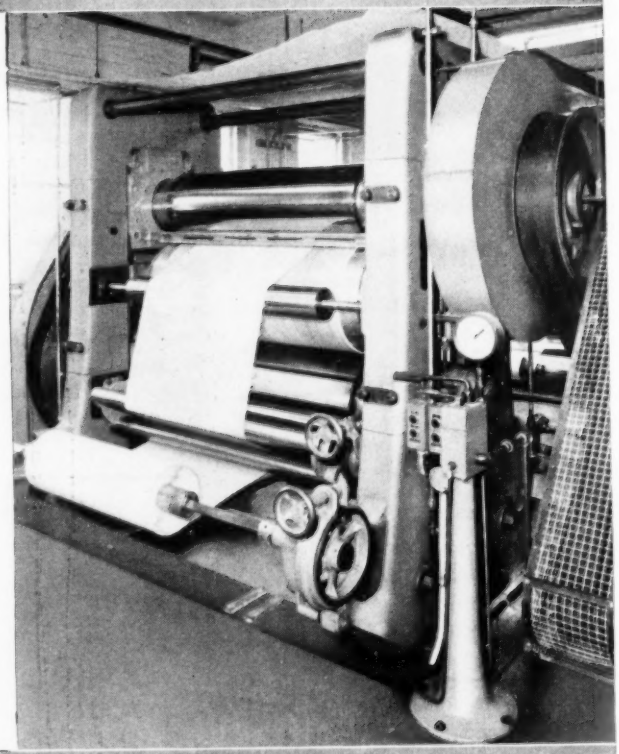
Customer's Verdict:

"Friction calender of the year"

"Smoothest running friction calender ever built"

Battery of three Perkins Friction Calenders incorporating new and proven ideas which contribute to smooth operation and high efficiency; roller bearings leakproof for life-time—seals eliminated; hydraulic equipment with built-in accumulator, self-contained in compact housing; friction drive by chain, easily adjustable for any friction percentage desired; all other details of construction up to the highest standards of engineering.

CLEANLINESS SMOOTHNESS NOISELESSNESS



B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

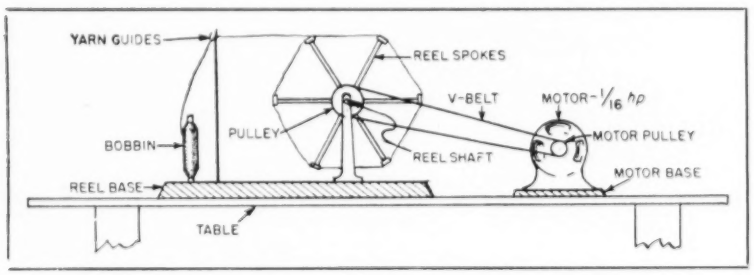
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

illustrations. The warning light serves to prevent the difficulties arising from inoperative warp stop motions, and we have practically eliminated lost ends from such causes.

When the fuse is burned and an end breaks, the warning light immediately indicates the condition. Then the weaver ties in the broken end and replaces the burned fuse with a new one.

These warning lights may be installed for only $1.50 per loom (including labor costs) and may be used to advantage on any loom equipped with an electrical warp stop motion, regardless of the fabric being woven on the loom.

CONTRIBUTOR No. 8577



Motorized Sample Reel Saves Time

EDITOR TEXTILE INDUSTRIES:

In many mills the job of sizing yarn is assigned to someone as a secondary chore, in some instances leaving the individual with insufficient time to size the yarn, especially if the mill is running several different yarn numbers. Depending upon the size of the yarn, up to 30 minutes are required to measure the total amount of yarn on a bobbin. If the reel were motorized, as shown in the accompanying illustration, considerable time could be saved. The motorized reel provides increased speed, more even drive, and more time to arrange bobbins than if the winding job were done manually.

To make this arrangement, first bolt the reel base to the table and remove the handle from the reel shaft. Replace the handle with a large washer and nut. Second, install a pulley on the back side of the reel shaft. The size of the pulley will determine the speed of the reel. Third, bolt a 1/16 hp motor to the table so that the motor shaft is in line with the reel pulley. Then, by use of a V-belt, the reel is driven by a small pulley on the motor shaft. The speed may be varied by changing the size of the pulleys.

CONTRIBUTOR No. 8550

A Way to Average Deniers

EDITOR TEXTILE INDUSTRIES:

Most cotton mill folks are familiar with the method of figuring average counts on the cotton numbering system, but I have never seen published a method of figuring average deniers, which can be very useful at times, such as when a mill is running several different deniers of rayon, or nylon, with different quantities of each denier.

Following is the formula I have used for some time and which has been useful on a number of occasions:

$$\frac{\text{Total pounds processed}}{\text{Sum of (lb of each denier} \div \text{its denier)}} = \text{Average Denier}$$

For example, suppose that a mill has the following production of the deniers listed:

Pounds	Denier
3000	15
4500	30
7200	40
9600	60
24,300 total pounds	

Calculations for above example:

$$\frac{3000}{15} = 200$$

$$\frac{4500}{30} = 150$$

$$\frac{7200}{40} = 180$$

$$\frac{9600}{60} = 160$$

690 Total

$$\frac{24{,}300}{690} = 35.22 \text{ Average Denier}$$

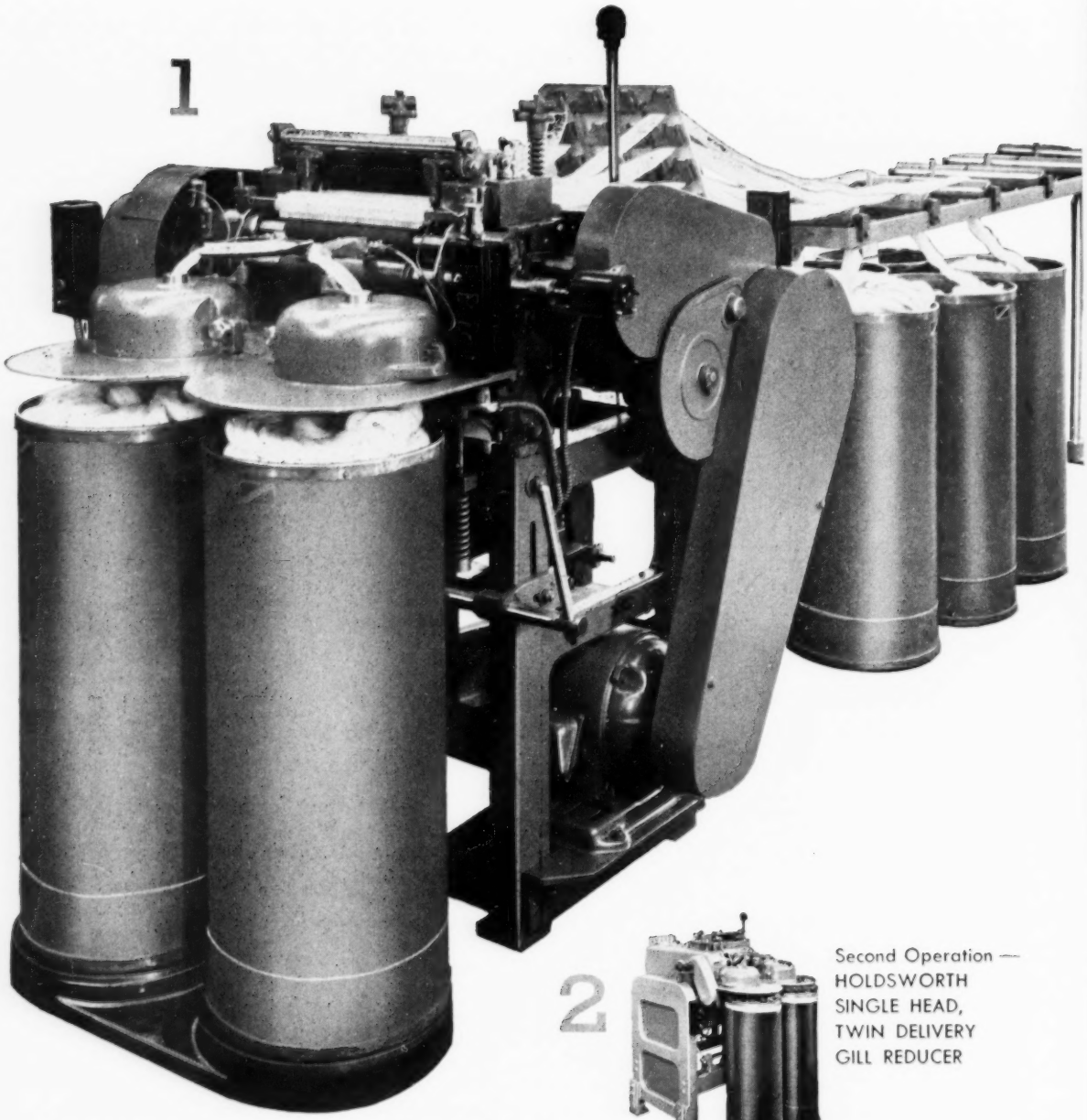
CONTRIBUTOR No. 8396

Spring Holders Improve Old Combers

MOST new model combers come provided with spring holders instead of weights to put the necessary pressure on the front top detaching rolls. The springs have several advantages, and it is a simple matter to convert the old, weighted combers to spring holders. We changed-over all of our combers and have found we saved money on maintenance and cleaning.

The change-over is very easy,

1



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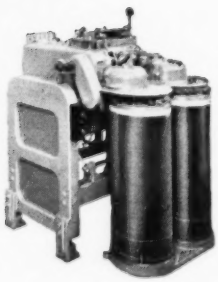
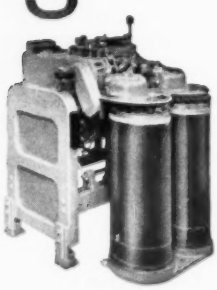


Second Operation — HOLDSWORTH SINGLE HEAD, TWIN DELIVERY GILL REDUCER

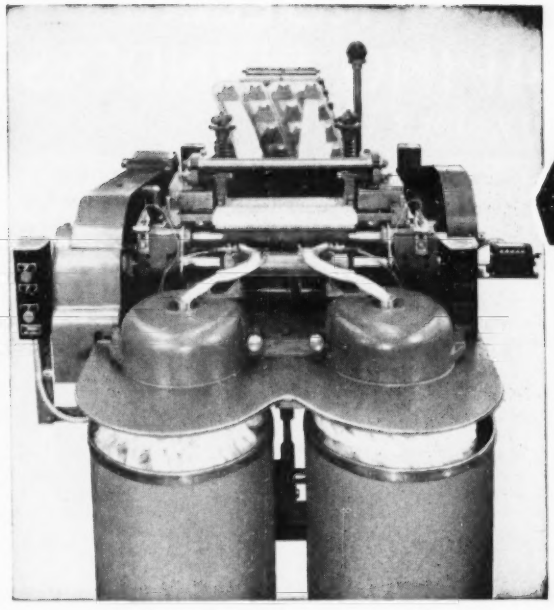
HOLDSWORTH

BRADFORD TYPE INTERSECTING GILL BOX *FOR THE FIRST DRAWING OPERATION* ON BLENDED SYNTHETICS AND WORSTED TOP

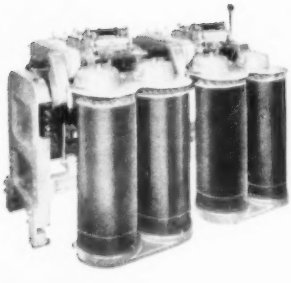
3



Third Operation — HOLDSWORTH SINGLE HEAD, TWIN DELIVERY GILL REDUCER



For the first operation after combing (or after a converter), the new Holdsworth Bradford Type Gill Box utilizes a heavier entrance sliver weight. It produces a well blended, open end, ideally suited to the "Abbreviated System" which follows. The usual Bradford Box apron has been removed and a three roll delivery arrangement with closer nip gives excellent fiber control and evenness of ends. The patented Holdsworth Fallers are interchangeable for pinnings from 11 to 15 per inch. Each head of fallers and screws delivers two ends into 15" diameter cans of 20 lb. coils. The machine is completely motorized and equipped with latest style stop motions. Holdsworth, America's most experienced maker of Gilling Machinery, would be glad to tackle your combing and drawing problems without any obligation to yourself. Write Atkinson, Haserick & Co. about this service.



4

Fourth Operation - HOLDSWORTH TWO HEAD, QUAD DELIVERY GILL REDUCER

48 hour repair service

Send Holdsworth Screws to be repaired direct to the plant, 55 Sabin St., Pawtucket, R. I. Within 48 hours we will send you a screw expertly repaired and of true pitch. We also repair all types of fallers.

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Atkinson, Haserick & Co.

Textile Machinery Agents and Engineers Since 1823

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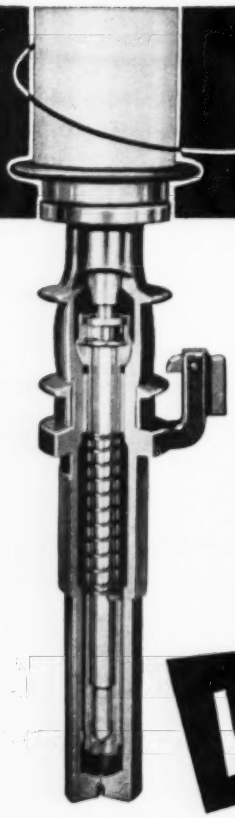

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WICACO Roller Bearing Spindles, incorporating the SKF roller bearing type of bolster, are the finest spindles your money can buy, developed to perfection through the many years since Wicaco first introduced Roller Bearing Spindles to the Textile Industry.

Many textile mills have found that Wicaco Roller Bearing Spindles cost no more than ordinary ones, and reduce operating costs. We will design them to meet your particular requirements. Write today for quotations without obligation.

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The WICACO SPINDLE OILING MACHINE guarantees proper lubrication for all twisting spindles, flushes out the old oil and replaces it with fresh clean oil in one simple operation. Saves time, labor, power. Order yours today, or send for descriptive folder NOW.

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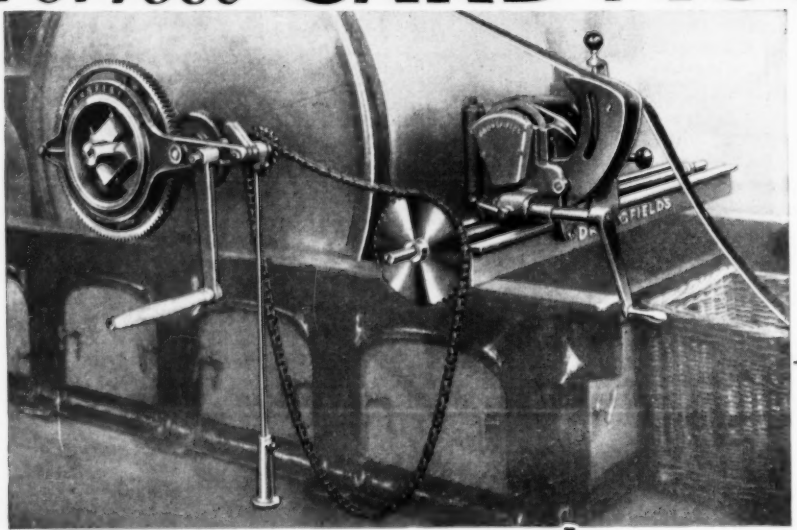

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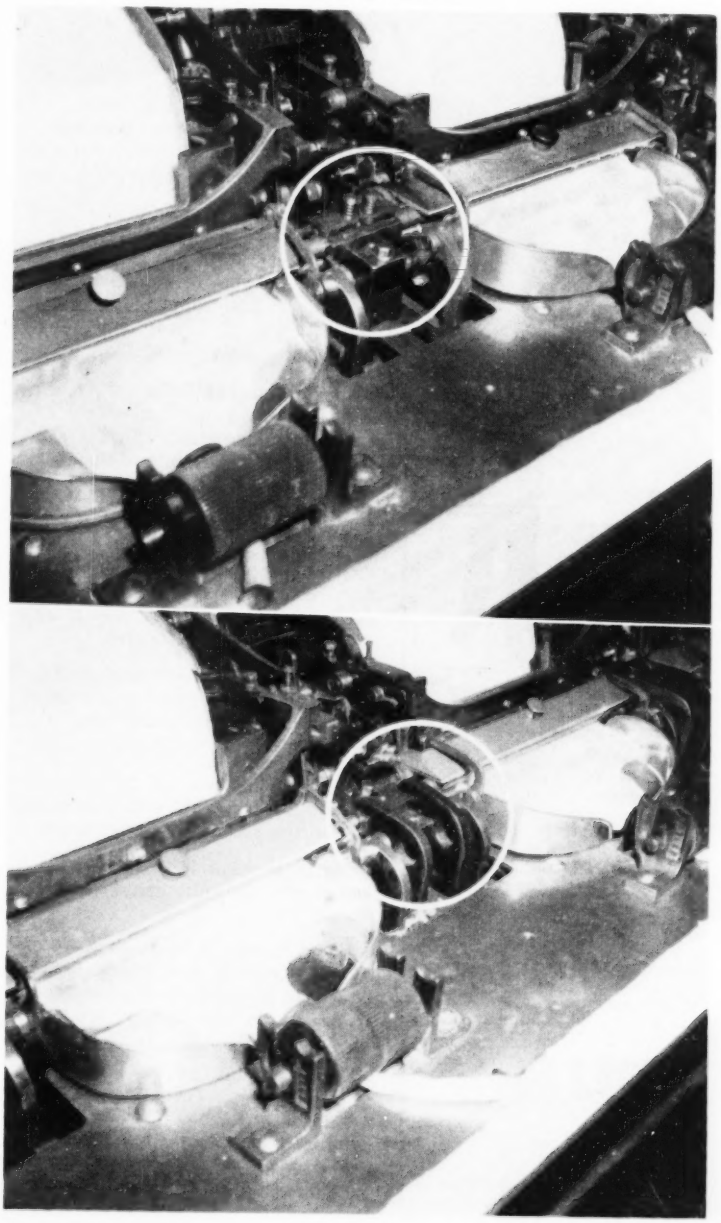
requiring only that the old weights be removed and replaced with a finger held down with a screw and a spring. The attachments can be purchased from comber manufacturers for about a fifth the cost of weights and weight holders.

It has been our experience that the cast iron weight holders of the old type break from time to time, while the spring arrangement will outlast the comber if given reasonable care.

Not only have our costs been reduced by not having to replace broken weight holders, but we have found it easier and cheaper to clean under the front of the comber when weights are no longer hanging in the way of sweepers and cleaners.

CONTRIBUTOR No. 8517

Two views of comber before (lower photo) and after detaching roll weights were replaced with spring holders.



Roll Spreaders Speed Removal of Cylinders

EDITOR TEXTILE INDUSTRIES:

Many textile mills do not have hydraulic cylinder pullers, and on difficult jobs all day is required to remove a damaged cylinder and replace it with a new one. Furthermore it is almost impossible to place a hydraulic cylinder puller around the cylinder on a tape drive frame.

Frequently we lost considerable time on such jobs, and we were ready to try anything once. Two of our fixers worked on one job for nearly six hours because the journal had rusted to the inside of the cylinder. Penetrating oil was applied in the set-screw holes, and the use of crow-bars failed to move the cylinder. I went to the machine shop and got two roll spreaders. One roll spreader was placed on each side of the cylinder between the two joints. The spreaders were tightened simultaneously, and in less than five minutes the cylinder was removed. Now we do the most difficult cylinder job in 30 minutes; whereas, anywhere from three to eight hours were consumed formerly.

If only one roll spreader is available, the job can be done by placing a gear or some piece of metal of the proper thickness on one side and the roll spreader on the other. Upon tightening the spread slightly, then releasing to increase the size of the piece of metal on the other side, then tightening the spreader again, the cylinder may be pulled completely out. The most stubborn cylinders may be removed in a few minutes this way.

CONTRIBUTOR No. 8542

Enter TI's Kink Contest

$100 CASH

for the winner

See page 163 for details

What the TEXTILE MILLS are doing

(Continued from page 32)

reopened with Abraham Young, Brooklyn, N. Y., in charge.

The cotton yarn manufacturing plant and equipment of **Yarn Specialties, Inc.**, Clover, S. C., has been purchased by **D. Mackintosh & Sons, Inc., Holyoke, Mass.** The mill will be operated as a South Carolina corporation known as **Mackintosh Spinning Mill, Inc.**

McComb (Miss.) Yarn Co., Inc., recently organized, will occupy under long term lease a one-story building now under construction and to be owned by the town.

Esther Mill Corp., Shelby, N. C., has taken over operation of **Marion Yarn Mills, Inc.,** Boiling Springs, N. C. Frank Love, president, and Frank Love, Jr., secretary and treasurer, of Marion resigned their positions immediately; their successors have not been announced.

C. H. Masland & Sons have purchased the mill and business of **Nice Yarn Co.,** Wakefield, R. I., and will operate it as an affiliated interest.

A modernization and expansion program, designed to nearly double the output of the No. 2 mill, is underway at **Mayfair Mills,** Arcadia, S. C. The new section to be erected will have nearly 70,000 sq ft floor space, and the size of the plant will be increased by 19,968 spindles.

T. J. Semmes, Semmes Bag Co., M. A. Greenberg, Republic Bag Co., and H. Reichert, American Bag Co., have acquired controlling interest in **Mente & Co., Inc.,** New Orleans, La., jute bagging and burlap, cotton and burlap bags, and tubing.

A woolen and worsted mill will be operated by the recently chartered **Norwich (Conn.) Woolen Mills, Inc.** Benjamin Hockberg, Willimantic, Conn., is president.

Oak River Mills, Greenville, S. C., have plans for construction of a spinning and finishing plant at Bennettsville, S. C., which will employ from 350 to 500 persons.

Queen Knitting Mills, Inc., recently incorporated, has taken over and succeeded the company of the same name at 2701 North Broad St., Philadelphia, Pa.

Robal Hosiery Co., Inc., 864 South Main St., Fall River, Mass., has been chartered to operate a mill for manufacture of hosiery and other knit goods. Cecile Domingue, 858 Middle St., Fall River, is treasurer.

New automatic looms and auxiliary equipment have been installed by **Sagamore Manufacturing Co.,** Fall River, Mass., for increased capacity of the mill.

Sand Knitting Mills Co., formerly of Chicago, has moved to Berlin, Wis.

Scottdale (Ga.) Mills, Inc., has an addition to the mill under construction.

Louis Sherer, 8 Montana St., Boston, is president, and Irving Sherer, 38 Indian Ridge Road, Newton, Mass., treasurer, of the newly organized **Sherer Knitting Mills, Inc.**

A branch mill at Forest City, N. C., is now being operated by **Skyland Textile Co.,** North Wilkesboro, N. C., children's anklets and other knit goods. Also, the firm has leased a one-story building at Sylvia, N. C.,

Helps reduce neps... NEW EMERY GRINDING FILLET by CARBORUNDUM TRADE MARK

Emery Grinding Fillet by CARBORUNDUM gives your card clothing true side grinding with no chiselled points or burrs—helps keep neps to a minimum.

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Specify Emery Grinding Fillet by CARBORUNDUM—the standard of leading mills everywhere. Order today from your CARBORUNDUM Distributor. He carries complete stocks for immediate delivery.

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company, Niagara Falls, New York

now under construction by Jackson County Industries, Inc. It will be equipped for employment of about 300 persons.

Hans Sonntag is president of the recently organized **Sonntag Tricot Mill, Inc.,** 45 Chapel St., Thomaston, Conn.

A one-story addition to the mill is under construction by **Southern Worsted Mills, Inc.,** Greenville, S. C.

A one-story industrial building at Winston-Salem, N. C., has been leased by **Sovelco Mills, Inc.,** 102 Fifth Ave., New York, and will be equipped for manufacture of suede cloth.

Springs Cotton Mills Co. has under construction a two-story addition to the Eureka plant at Chester, S. C. Installation will include approximately 12,000 additional spindles and auxiliary equipment.

The New York office of **Standard-Coosa-Thatcher Co.** has moved to the Empire State Building.

Stevens Manufacturing Research has moved and been consolidated with other activities at Dunean Mills, a division of **J. P. Stevens & Co., Inc.**

J. P. Stevens & Co., Inc., has closed its rayon finishing mill at Attleboro, Mass., operated under the name of **Delta Finishing Co.,** and the property has been placed on the market.

Rayon Corp. of Philippines has plans for construction of a new rayon mill in Negros Occidental Province, Philippines. The plant will cover all divisions of production, including a filament rayon unit, rayon staple plant, weaving mill, throwing plant, dye works, printing and finishing mill.

Tapes, braids, and similar textile products are being manufactured by the recently chartered **Tapes, Inc.,** Pawtucket, R. I. Principal incorporator is Owen P. Reid, 307 Newman Ave., Rumford, R. I.

Tennessee Textile Corp. will occupy under lease a one-story building now under construction at Maryville, Tenn.

The inventories, name, good will, and business of F. Burkart Manufacturing Co., St. Louis, Mo., have been purchased by **Textron Incorporated.** Burkart supplies cotton and sisal batts to the automotive trade. The shareholders of Textron have authorized a broader business purpose amendment to permit the company to participate in business activities other than textiles.

Twintex Hosiery Mills Co., East Greenville, Pa., has an addition to the mill under construction for increased capacity.

Contract has been let by **Union Bleachery Division, Aspinook Corp.,** for an addition to the mill at Greenville, S. C.

Volney Felt Mills, Inc., Brookville, Ind., reported a recent fire loss of over $200,000 including buildings, equipment, and stock. A rebuilding program is planned.

United States Rubber Co.'s mill at Shelbyville, Tenn., is undergoing an expansion program which will give employment to 200 additional people. A 67,000 sq ft addition will be built.

Wright-Knit Hosiery Mill, Hickory, N. C., was recently organized by G. H. Stanhope, W. S. Foster & Associates, for manufacture of men's hosiery. Mr. Foster is president of the new company.

Material: Caustic solution—for use in mercerizing machines.
Problem: Rotary pumps wore quickly, lost capacity, and had too little suction.
Solution: Moyno pumps cut maintenance and repairs to minimum—had ample suction for drawing caustic through the cloth.

Material: Textile Starch Sizing.
Problem: Other positive displacement pumps broke down starch; needed frequent maintenance.
Solution: Moyno pumps starch at 25 p.s.i. with no churning or turbulence. Pump maintenance has been reduced to minimum.

Material: Size—china clay and latex.
Problem: Centrifugal pump unable to handle viscosity—causing frequent trouble.
Solution: Moyno pump has been on duty for a year. Pump trouble completely eliminated; no repairs.

Material: Chromic Acid.
Problem: Material hard on pumps—being slightly corrosive and abrasive.
Solution: Moyno pump on duty for the past two years; has required practically no maintenance. Customer very well pleased.

Four Textile Production Problems Solved By The MOYNO PUMP!

Features of the MOYNO that may solve YOUR pumping problem

Positive Displacement — Moynos pull up to 29" vacuum while discharging under pressure. Big Moynos deliver up to 250 g.p.m. at pressures to 600 p.s.i.

Gentle — No churning; won't break up semi-solids; won't aerate liquids.

Reversible — pumps with equal efficiency in either direction.

Versatile — handles liquids, slurries, pastes—even potato salad! Rotor and stator available in stainless steel, other alloys, or plastics to meet wide variety of applications.

Trouble-Free — self priming; won't cavitate or vapor-lock. Just one moving part—no valves to stick, no pistons to gum up. Built for tough service. Easy to maintain.

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Looking for a pump with a fast-growing reputation for solving tough problems? Take a look at the simple, versatile Moyno!

Briefly described above are a few of the many successful case histories proving how Moynos handle jobs where other pumps failed. Why is the Moyno a "problem-solving" pump? For one thing, because it differs completely from conventional pumps—rotary, centrifugal or piston. Just one rugged moving part—a rotor turning within a stator—does the job.

If *you* have a pumping problem caused by abrasive or corrosive materials—watery, viscous or even semi-solid—find out if the Moyno can help you! Mail the coupon.

Robbins & Myers, Inc. TI-53
Pump Division, Springfield 99, Ohio
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LATE BULLETINS

Information on 42 check straps offered by Rhoads. Complete specifications make hand quick-reference wall chart. Write J. E. Rhoads & Sons, 35 N. Sixth St., Philadelphia 6, Pa.

2-B For complete data on the SRRL opener, showing how it can "Make $10.00 bills for you," Write Cen-Tennial Cotton Gin Co., Columbus, Ga.

7-1 Floating Bottom Roving Truck. Booklet by Excel Textile Supply shows advantages of roving truck with automatically adjusted bottom. Eliminates reaching over into truck by keeping load level within easy reach of operator. Write Excel Textile Supply Co., Lee Ave., Lincolnton, N. C.

7-2 Avisco Textile Chemicals. 40-page technical data book on the processing of all textile fibers, both natural and man-made, is available from American Viscose Corp. Its aim is raising the quality of end products. Write American Viscose Corp. 1617 Pennsylvania Blvd., Phila. 3, Pa.

7-3 Valve Catalog. 506-page catalog, featuring a special 24-page Valve Selector Guide, describes complete line of Lunkenheimer valves, lubricating devices, boiler mountings, cocks and other products. Write Lunkenheimer Co., Box 360, Annex Station, Cincinnati 14, Ohio.

7-4 Cutting Materials Handling Costs. 8-page booklet in color is generously illustrated, showing uses for "Cargotainers" in the Textile Industry. Case history treatment. Write Pittsburgh Steel Company, Grant Bldg., Pittsburgh 19, Pa.

7-5 Automatic Regain Control of Rayon and Synthetic Fibre Slashing. Technical booklet by Minneapolis-Honeywell gives data on application of their electronic, Multi-Range "Moist-O-Graph" system for controlled regain. Write Minneapolis-Honeywell Regulator Co., Industrial Division, Phila. 44, Pa.

7-6 Courtauld's Spun-dyed "Fibro." Booklet with color samples and swatches shows properties and advantages of spun-dyed rayon staple. Gives advantages in blending to various color combinations. Write Courtaulds, Inc., 600 Fifth Avenue, New York 20, N. Y.

7-7 Wool Spinning Frame. Booklet by Davis and Furber shows advantages and application of "SIMPLEX" wool spinning frames for production of yarn on the carded woolen system. Write to Davis and Furber Machine Company, North Andover, Mass.

7-8 Dyeing Blends of Newer Synthetics. Booklet gives comprehensive data on dyeing procedures where blends contain Acrilan, Dacron, Dynel, and Orlon. A good handbook for quick reference. Write Sandoz Chemical Works, 61 Van Dam Street, New York, N. Y.

7-9 Air Slasher Dryer. Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cutaway view shown. Write Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

7-10 High Pressure Boiler Feedwater Demineralization. Technical paper by Permutit shows that mixed bed and two-step demineralization are two processes utilizing cation and anion exchange resins to reduce dissolved silica and solids from high pressure boiler feed water. Write for bulletin 3836, Permutit Co., 330 W. 42nd St., New York 36, New York.

7-11 Window Coating to Cut direct Sun Rays. Pamphlet by Eastern Industrial Service shows how "Thermoglare" Film cuts heat from sun rays, improves working light and seals up vapor leaks. Sprayed direct on outside of windows. Write Eastern Industrial Service, Inc., 2020 R Street, N.W., Washington 9, D. C.

7-12 Controlled Vat Dyeing. Technical Bulletin by Calco Chemical discusses Stabilization of Vat Dyes at Elevated Temperatures, Instrumental and Analytical measurements, Leuco Potentials. Write American Cyanamid Co., Calco Chemical Div., Bound Brook, New Jersey.

7-13 Industrial Lighting. "See Better - Work Better" bulletin by GE, Lamp Div., tells of revolution in Industrial lighting and explains advantages of new concept of lighting over old, the new being based on balanced brightness over the entire work area. Write Inquiry Bureau, General Electric Co., Nela Park, Cleveland 12, Ohio.

7-14 Simplifying Industrial Lubrication. Booklet by Pure Oil sets up six simple steps to streamline lubrication in the mills and shows that a maximum of six lubricants will do the job. Write Advertising Dept., the Pure Oil Co., 35 E. Wacker Drive, Chicago 1, Ill.

7-15 Rubber Covered Rolls. Folder describes the wide variety of rubber covered rolls made by Tyer Rubber Co., including textile rolls. Discusses characteristics and shows advantages of Tyer Rolls. Write Industrial Roll Division, Tyer Rubber Co., Andover, Mass.

7-16 Packaging for Textile Products. Complete folio by Hinde & Dauch Paper Co. discribes 12 different styles of standard corrugated boxes, as well as 72 corrugated specialty boxes designed & engineered by H & D. Write Hinde & Dauch Paper Company, Sandusky, Ohio.

TEXTILE LEATHERS bearing the name

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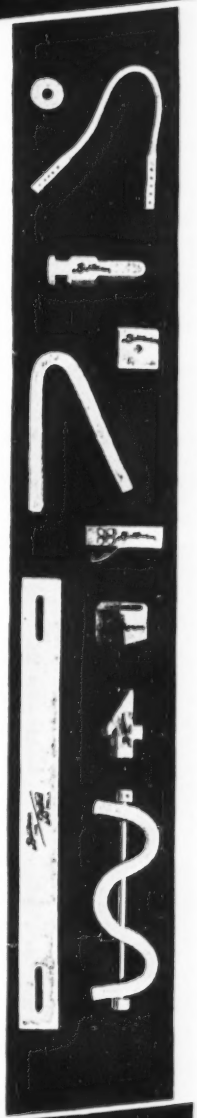

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National Travelers are designed and made to perfect your spinning. Precisely balanced, carefully hardened, and smoothly finished, these long-lived travelers are engineered for higher production of stronger yarns. Ask us to recommend the *right* travelers that will put money in the bank for your mill. National Ring Traveler Company, Pawtucket, R. I., and Charlotte, N. C.

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4. HOW FACTORING CAN INCREASE PROFITS —Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward checking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

7. RAYON TELLS ITS STORY TO THE PUBLIC —Folder containing reprints of advertisements explaining some of the many roles in which rayon is serving the American public. —AMERICAN VISCOSE CORPORATION, 350 5th Ave., New York 1, N. Y.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK—8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management.—AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18. FACTORING—Information available on how factoring works to aid client in keeping capital fluid and to avoid credit losses. Inquiries regarding these services welcome.—L. F. DOMMERICH & CO., 271 Madison Ave., New York 16, N. Y.

19. INDUSTRIAL BUILDING — A 32-page booklet entitled "U.S.S. 12, U.S.S. 17 Stainless Steel Walls and Roofs for Industrial Buildings," is now available for distribution. This publication illustrates the use of type 410 and type 430 stainless Steel Sheets in the construction of industrial and semi-industrial buildings. U. S. STEEL CO., 525 WILLIAM PENN, PL., PITTSBURGH 30, PA.

20. VISION TESTING EQUIPMENT — Pamphlet entitled "What You Can Expect From a Good Vision Program" written by a prominent personnel director. Also circular describing the Keystone Occupational Visual Service. — KEYSTONE VIEW COMPANY, Meadville, Pa.

22. THE WONALANCET WAY — Is the title of a editorial booklet published five times a year and dealing with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

PLANT & PLANT MAINTENANCE . . .

101. TEXTILE DIGEST — 18-page manual reviewing performance-proved procedures for improved handling of more than 60 essential cleaning and related operations in textile mills. — OAKITE PRODUCTS, INC., 22 Thames St., New York, N. Y.

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AM-O automatic self-cleaning atomizers, controls and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. MAPLE FLOORING—Booklet describing finishing of Northern Hard Maple Flooring — list of M F M A approved heavy-duty floor finishes.—MAPLE FLOORING MANUFACTURERS ASSOCIATION, Pure Oil Bldg., 35 East Wacher dr., Chicago 1, Ill.

109. CARD STRIPPER — Portable dustless card stripper described in bulletin 1050. Advantages of dustless stripping when combined with thorough brush stripping. Used alone or with other systems discussed. — CLARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

111. INDUSTRIAL FANS—Catalog sheets with specifications describing the complete line of Murray Industrial fans for plant ventilation. Seven sizes described from 24" with 1/3 HP motor delivering 5700 CFM to 54" with 3/4 HP delivering 17,386 CFM, with advantages of heavy gauge metal construction brought out.—H. C. BIGLIN CO., 177 Harris St., N.W., Atlanta, Ga.

113. COTTON MILL EQUIPMENT — This book traces pictorially the steps in processing raw cotton into finished cloth. It shows the equipment needed for all phases of production, as well as containing a "Useful Information" section on Power Factor Correction, Lighting, Circuit Protection, etc.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

119. MOPPING EQUIPMENT — Complete catalog and circulars containing information on the many sizes and styles that can be had.—S. C. LAWLOR CO., 121 N. Aberdeen St., Chicago, Ill.

121. STEAM GENERATORS — Bulletin P-1 describes compact package type boiler for heating, power, or processing. Described as fully automatic firing all liquid or gaseous fuels.—THE CYCLOTHERM CORP., Oswego, N. Y.

126. "SENTRY-LITE" — bulletin illustrating and describing light unit that comes on automatically when power fails, illuminating 10,000 sq. ft. 3 hours or longer. CLEVELAND ELECTRIC CO., 557 Marietta St. N.W., Atlanta 3, Ga.

127. SOLENOID VALVES — Bulletin "V" lists sizes from 1/2 inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations.—THE JOHNSON CORP., Three Rivers, Mich.

129. AIR CONDITIONING AND HUMIDIFICATION — Catalog section 101 lists and briefly describes each item of the complete Bahnson line of equipment for textile mill air conditioning and humidity control.—THE BAHNSON COMPANY, Winston-Salem, N. C.

130. LIGHTING EQUIPMENT — Bulletin lists and describes the Crouse-Hinds line of lighting equipment which includes flood lights, searchlights, types of industrial lighting fixtures of vaporlight, dust-tight, and explosion-proof types. — CROUSE-HINDS COMPANY, Syracuse 1, N. Y.

131. "AIR PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. J. O. ROSS ENGINEERING CORP., 444 Madison AVE., New York 22, N. Y.

133. PAINTING SPECIFICATIONS AND COLOR CHIPS—Industrial Paint and Color Guide, CC46, gives full painting specifications for exterior and interior of industrial plants with complete color samples. — THE SHERWIN-WILLIAMS CO., Painter Maintenance Div., Cleveland, Ohio.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can add. — E. I. DUPONT DE NEMOURS & CO., INC., Finishes Div. Wilmington 98, Delaware.

137. PUMPS AND COMPRESSORS — Bulletin GP-11 presents the standard types of Gardner-Denver air compressors, centrifugal pumps, steam and power reciprocating pumps in a brief and comprehensive manner to enable the prospective user to select the size and type for specific needs.—GARDNER-DENVER CO., Quincy, Ill.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacturers, including the new Flat Wire Belt design and application, along with their Woven Wire Constructions and Positive Drive Chain Edge Belts. — ASHWORTH BROS. INC., Metal Products Div., Fall River, Mass.

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146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

149. ELECTRIC AUTOMATIC LEVER CONTROL —Bulletin F-4432 illustrates and describes Barber-Colman Automatic Electric Lever Control designed to regulate the level of solutions commonly used by industry. Ease of installation is emphasized. — BARBER COLMAN CO., Rockford, Ill.

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151. INDUSTRIAL BRUSHES—Illustrated Booklet of industrial brushes featuring textile usage on shears, printing machines; also flock, raising and cylinder brushes.—M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS—Booklet by Synthane Corporation shows variety, application, and advantage of laminated plastic parts and supplies for the textile industry. Write: SYNTHANE CORPORATION, Textile Division, Oaks, Penna.

154. AIR CONDITIONING FOR THE TEXTILE INDUSTRY — Booklet shows advantages of air conditioned mills in better products and more efficient workers, and gives values of White & Co., air conditioning in particular. Write WHITE & CO., INC., 1440 S. Tryon St., P. O. Box 533, Charlotte, N. C.

155. DUCTLESS AIR CONDITIONING—24-page illustrated Catalog No. 2 on Amco humidification and ductless evaporative cooling, along with other Amco humidification devices. Contains relative humidity tables and textile regains. — AMERICAN MOISTENING CO., Providence, R. I.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE—Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.—G. H. TENNANT COMPANY, 2530 N. Second St. Minneapolis 11, Minn.

157. MAINTENANCE — Silicone water-repellent for masonry described in data sheet XR-1296-I. Properties and application of an invisible, durable, non-plugging, silicone masonry water repellent that is inexpensive and easy to apply fully discussed.—DOWCORNING CORP., Midland, Mich.

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169. MACHINE BRUSHES — Illustrated Folder shows many types of machine brushes and describing their particular use for printing, washing, brushing, singeing, and shearing is sent free upon request. Write: INDUSTRIAL BRUSH COMPANY, INC., Woodside Avenue, Little Falls, New Jersey.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "E" and "RE" electric blowers and exhausters. Uses and full description of each with detail drawings.—BUFFALO FORGE CO., 494 Broadway, Buffalo 5, N. Y.

179. BETTER WAYS — Form 2029, condenser catalog of standard and special model Toledo Industrial Scales that are being used in receiving, shipping, and production operations by all industries including the textile field.—TOLEDO SCALE CO., Box 97, Toledo, Ohio.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance, characteristics, construction and installation fully discussed.—AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

188. PROGRESSING-CAVITY PUMPS — A new principle in pumps. Self-priming, positive displacement, uniform flow features discussed. — ROBBINS & MYERS, INC., Pump Div., Springfield, Ohio.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

201. V-BELT DRIVE CATOLOG — This handy, pocket-sized catalog helps you make quick and easy selections of any Dayton V-Belt Drive from 1 to 1000 HP. Contains many concise, accurate drive tables, diagrams, and other important engineering data.—DAYTON RUBBER CO., Dayton, Ohio.

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203. TREADED LEATHER BELTING — This 16-page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section.—E. F. HOUGHTON & CO., Philadelphia, Pa.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps take-up roll covering and others. —THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

215. MOTORS FOR ROVING & SPINNING FRAMES — Booklet describes Louis-Allis soft-start textile motors. Gives charts showing speed torque curves; illustrating that a standard motor has too much standard Torque and too rapid acceleration. Write: THE LOUIS-ALLIS COMPANY, Milwaukee 7, Wisconsin, for Bulletin 801.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

221. OILER MANUAL — Highly informative and helpful manual explains in detail the proper application of Trico, visible, automatic oilers to various bearing surfaces. Construction information and valuable suggestions.—TRICO FUSE MANUFACTURING CO., 2948 N. 5th St., Milwaukee 12, Wis.

226. COTTON CARD DRIVES—Booklet B-4596 which describes Westinghouse individual cotton card drives. Through the proper design of card motors by Westinghouse, individual drive is now practical and the booklet gives full information. — WESTINGHOUSE ELECTRIC CORPORATION, P. O. Box 868, Pittsburgh 30, Pa.

227. WOOLEN AND WORSTED MILL ELECTRIC EQUIPMENT — Booklet by Westinghouse follows processing through the mill and shows application and advantages of Westinghouse equipment. Write for: B-4698, WESTINGHOUSE ELECTRIC CORP., Box 2099, Pittsburgh 30, Pennsylvania.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. Write: DODGE MANUFACTURING CORP., Mishawaka, Indiana.

230. HEAT RESISTING LUBRICANT — Descriptive pamphlet on Ben Boy High Heat Resisting Lubricant for use in any bearing using excessive amounts of oil or grease or frequent bearing failures. — GEORGIA CAROLINA OIL CO., 1402 Sixth St., Macon, Ga.

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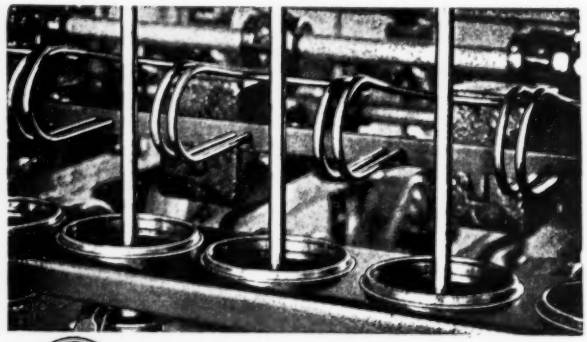

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239. **LICKERIN AND DOFFER BELTS** — Brochure and full information on Lickerin and Doffer belts supplied by: TON-TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

254. **LOOM RECONDITIONING PROGRAM AT TALLASSEE MILLS**—Reprint of exclusive story on the loom reconditioning program at one of the biggest southern mills. This article shows how central lubricating system was built into each rebuilt loom as part of the improvement program. — BIJUR LUBRICATING CORPORATION, Rochelle Park, N. J.

259. **SUNOTEX MACHINE OIL** — Booklet describing this machine oil is being "custom-made" for the textile industry. Advantages discussed and pictures of uses which includes knitting machinery. SUN OIL COMPANY, Philadelphia 3, Pa.

262. **SMALL PRECISION METAL PARTS** — Catalog by Torrington Company describes many special precision metal parts made by its Specialties Division. — Write: THE TORRINGTON COMPANY, Specialties Division, 500 Field Street, Torrington, Connecticut.

265. **SERVICE PROCEDURE FOR BALL BEARINGS** — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, Division of General Motors Corp., Bristol, Conn.

266. **SILICONE LUBRICATION** — Bulletin 862-IC, describes properties of Silicone greases used in motors at high speeds and temperatures, on oven conveyors, tenter frames, can dryers, etc. Decrease by 10 to 1 in re-lubrication requirements described. —DOW-CORNING CORP., Midland, Mich.

277. **SPECIAL TEXTILE MOTORS** — Bulletin 51B6055A describes special features of "Quick-Clean" motors, including discussion on free air flow, pre-lubricates bearings, rigid cast iron frame and double insulation. — ALLIS-CHALMERS MFG. CO., Milwaukee, Wis.

INSTRUMENTS, STEAM SPECIALTIES

301. **JOHNSON ROTARY PRESSURE JOINTS**—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices.—THE JOHNSON CORP., Three Rivers, Mich.

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303. **PROCESS CONTROL EQUIPMENT**—Catalog containing brief description of standard and special process control equipment engineered for textile Industry. Includes schematic diagrams. — MASON-NEILAN REGULATOR CO., 1190 Adams St., Boston, Mass.

311. **PIPING POINTERS** — Industrial maintenance book covering installation and handling of piping, valves, fittings. Well illustrated, practical tips.—CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.

314. **MOISTURE CONTENT CONTROL** — Bulletin F-3156 giving details of features and benefits of moisture equipment control for slashers and textile applications.—BARBER-COLMAN CO., Rockford, Ill.

321. **RED-RAY BURNERS** — Bulletin describing use of Red-Ray Burners in preheating and partial drying to increase capacity of frame.—RED-RAY MFG. CO., 43 W. 45th St., New York, N. Y.

324. **STROBOTAC** — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

332. **NEW INFORMATION ON INSTRUMENT GAGES** — 24-page bulletin by Taylor Instrument Companies supplies considerable information on features, dials, and scales available to textile industry with excellent reference material on different types of actuation. — Write for No. 98214, TAYLOR INSTRUMENT COMPANIES, Rochester 1, New York.

342. **ACCURATE MEASURE** — Booklet describing the Trumeter line of measuring machines for silks, cottons, linens, woolens, etc. Description and illustration of each machine with dimension diagrams and advantages of each machine.—THE TRUMETER CO., 1265 Broadway, New York, N. Y.

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CARDING, SPINNING, WINDING . . .

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408. **CARD GRINDING INFORMATION** — Outlines care of grinders. Instructions on speed to run grinders, amount of oil to add to machine and other pertinent information.—B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

409. **ROTO CONER**—Bulletin describing Universal rotary traverse winder, known as the Roto Coner, producing open wound cones or knitting and warping; parallel tubes for package dyeing, twisting, and sale yarn.—UNIVERSAL WINDING CO., Providence, Rhode Island.

412. **SERVICE FOLDER**—Folder covers textile metal products including spinning and twisting cylinders, card screens, etc.—JENKINS METAL SHOPS, INC., Gastonia, N. C.

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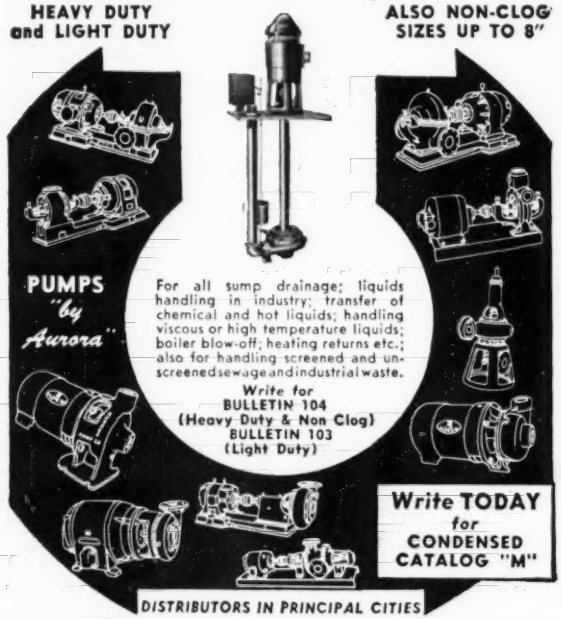

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418. PACIFIC CONVERTER—Graphic description of machine that cuts any synthetic tow; and when desired, blends it with wool or staple sliver, keeping the fibers parallel, and issuing an even sliver of accurate blend.—WARNER & SWASEY CO., Cleveland, Ohio.

419. TEXTILE APRONS—Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery.—TEXTILE APRON COMPANY, East Point, Ga.

420. AUTOMATIC FILLING WINDING — Eight page, two color booklet describing the operation and mechanism of the Hacoba winder.— ATKINSON, HASERICK & CO., 211 Congress St., Boston, Mass.

421. CARD ROLL COVERS — Brochure describes the Davis Seamless Roll Covers. Lists advantages; specifications and offers free trial. — THE TEXTILE LABORATORIES, P. O. Box 1003, Gastonia, N. C.

422. MODERN TEXTILE ROLL COVERING—Illustrated booklet on roll covering problems with charts on correct usages. Also data on Aerotex long draft aprons.—ARMSTRONG CORK CO., Industrial Division, TEXTILE PRODUCTS SEC., Lancaster, Pa.

430. DIXON DATA — Dixon house organ entitled "Dixon Data," which is available in a new form every other month. These house organs contain information on spinning problems as they relate to saddles and component parts.—DIXON LUBRICATING SADDLE CO., Bristol, R. I.

435. DOUBLE DECK TWISTERS — Bulletin describes Jumbo (8 oz. to 16 oz. headless or take-up steel packages) and Acme (up to 10 oz. packages) models for high speed twisting of silk, rayon, nylon, etc., to finest deniers.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

436. MAINTENANCE INFORMATION FOR YOUR SCOTT TESTER—Booklet containing maintenance data for calibration of Scott Testers, clamps for testers, gear-box lubrication, and recording.—SCOTT TESTERS, INC., Providence, R. I.

437. SPINDLE TAPE LACING EQUIPMENT—Circular No. 54 illustrating and describing the Clipper method of jointing spindle tapes.—CLIPPER BELT LACER CO., Grand Rapids 2, Mich.

438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Face Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing.—U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

445. ROLLER BEARING SPINDLES—Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Gatewood Ave., Cleveland, Ohio.

446. WINDING MACHINES — Principles and Practices is the title of Bulletin No. 329, Part 2 on the No. 44 Roto-Coner is profusely illustrated with exploded view drawings with charts and tables relative to drum winders.—UNIVERSAL WINDING CO., Providence, R. I.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply.—FOSTER MACHINE COMPANY, Westfield, Mass.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning.—USTER CORPORATION, Charlotte, N. C.

454. CARD AND PICKER BEARINGS — Four-page, two-color folder which describes this manufacturer's ball and roller bearings for cards and pickers.—SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

455. PIN DRAFTS—Catalog describing the use and features of the machine, what it can do to cut costs in the processing of natural and synthetic yarns, along with specifications and installation data.—WARNER & SWASEY CO., 5701 Carnegie Ave., Cleveland, Ohio.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers.—HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc Fully described with specific application.—WALTER KIDDE & CO., INC., Belleville 9, N. Y.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns.—FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG—A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Leap Pickers, Lug Straps, etc.—DAYTON RUBBER CO., Dayton, Ohio.

466. CONDENSED LISTINGS — 8-page pocket sized booklet listing by plan flow the machinery and mill supplies available. Designed to help purchaser in grouping his orders to greatest advantage.—ATKINSON, HASERICK & CO., Boston, Mass.

467. CARD CLOTHING.—8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. Write Benjamin Booth Company, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

468. BALL BEARING TOP ROLLS — Bulletin features top roll for Spinning and Roving Frames with sealed lubrication, interchangeable units, lowest servicing and precision quality. — Write FAULTLESS CASTER CORPORATION, Textile Equipment Division, Evansville 7, Indiana.

469. SHORT CUT TO STAPLE FIBER SPINNING—Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — Write TURBO MACHINE COMPANY, Lansdale, Pa.

470. TENSION CONTROL IN TEXTILES—Booklet describes many applications and advantages of Link Engineerings' "Lod Caps". Well illustrated with diagrams and pictures, it gives specifications and capacities. — Write LINK ENGINEERING COMPANY, 13843 Elmira Avenue, Dept. D, Detroit 27, Michigan.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES. Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins.—Write IDEAL MACHINE SHOPS, Bessemer City, North Carolina.

473. CUSTOM MADE THREAD GUIDES—Illustrated booklet describing uses and physical properties of the "AlSiMag" line of Thread Guides. Advantages fully discussed with picture and specifications of each type.—AMERICAN LAVA CORP., Chattanooga 5, Tenn.

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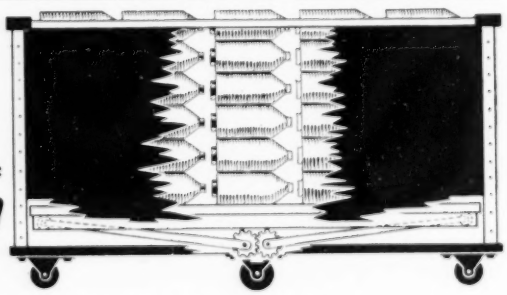
ATLANTA, GEORGIA

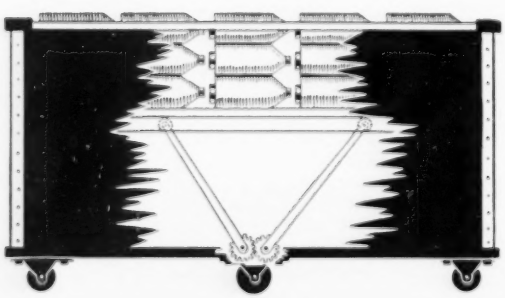
MEMBER: FEDERAL RESERVE SYSTEM • FEDERAL DEPOSIT INSURANCE CORPORATION

The "General" # 3000 Excel Truck with the *Auto-Magic Floating Bottom**



- Completely automatic. Spring action keeps load level always within easy reach of operator.
- Perfect stabilization prevents tilt or bind, always giving smooth, level action regardless of position of load in either end or in both ends.
- No bend, no stoop. Eliminates backbreaking straining to reach bottom of truck.
- No cranking, no pumping. Requires absolutely no attention from the operator.
- Mounted rollers in edge of bottom give smooth, free flowing action up and down. Prevent binding or drag against sides and ends of truck.

*Pat. Pending



Made in Several Popular Sizes

REPRESENTATIVES:

Mr. N. W. Eurey	Lincolnton, N. C.
Mr. Paul Eurey	Lincolnton, N. C.
Industrial Suppliers, Inc.	La Grange, Ga.
Fall River Mill Supply Co.	Fall River, Mass.

EXCEL TEXTILE SUPPLY CO.

"Excel Trucks Excel"

Lincolnton, North Carolina

able entitled "Unfolding to You the World's Largest Line of Looms". Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

503. **WEAVER'S KNOTTER**—A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter.—A. B. CARTER, INC., Gastonia, N. C.

504. **LOOM SUPPLIES** — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers brake lining and allied products.—E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

507. **VARIABLE SPEED SLASHER DRIVE** — Reeves bulletin G-503 describes their Servo-Control slasher drive which automatically controls tension from creel to beam, and which controls the stretch in the slasher.—REEVES PULLEY CO., Columbus, Ind.

508. **LOOM PRODUCTION CHARTS** — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

509. **MULTI-MOTOR SLASHER DRIVES**—Booklet designed to bring the descriptive information on multi-motor slasher drives up to date, and emphasize the improvement in the drive through the use of Rototrol for the control of winding tension.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

510. **THE ROMANCE OF PRAIRIE GOLD**—Attractive illustrated book which tells the story of corn and the uses of corn products to industry.—CORN PRODUCTS SALES CO., 17 Battery Place, New York, N. Y.

511. **ALUMINUM BEAMS**—Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types.—HAYES INDUSTRIES, INC., Jackson, Mich.

512. **LOOM PRODUCTION CALCULATOR**—Handy pocket slide rule available for computing per cent efficiency of a loom. Simply set operative hours and loom speed and the per cent efficiency can be read on the side opposite the pick counter reading.—VEEDER-ROOT, INC., Textile Counters Div., Hartford 2, Conn.

517. **LOADING SYSTEM**—Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

518. **NIAGARA TWIST-SETTER** — Folder describing the revolutionary Niagara Twist-Setter which has no moving parts. This yarn is sprayed from all sides to afford maximum economy. — SEYDEL-WOOLEY & CO., 748 Rice St., Atlanta, Ga.

521. **STEEL WARP BEAMS**—20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties.—MILTON MACHINE WORKS, INC., Milton, Pa.

524. **JOHNSON WARP SIZES**—12 page fully illustrated booklet, describing the 7 cylinder sizer with stretch indicator and finger-tip control of stretch. A point-by-point analysis.—CHARLES B. JOHNSON MACHINE WORKS, Piercy & Holsman Sts., Paterson, N. J.

529. **STRAPPING** — Looms and harness strapping, complete line. Full information supplied on request. —TON TEX CORPORATION, 16 West 61st St., New York 23, N. Y.

530. **ROTARY UNIONS**—New catalog shows how to cut costs, get better sealing, on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count."—PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

536. **HOMOGENIZER IMPROVES SLASHING** — Pamphlet by Manton-Gaulin Manufacturing Company shows how mechanical conversion of size by the Gaulin method produces better size. Gives installation pictures and specifications. — Write MANTON-GAULIN MANUFACTURING COMPANY, INC., Everett, Massachusetts, U. S. A.

537. **WEST POINT'S HOT AIR SLASHER** — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included.—Write WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

DYEING, FINISHING CLOTH ROOM . . .

605. **CONTINUOUS AUTOMATIC EXTRACTING MACHINE**—Folder describing the most efficient method of extracting excess liquid from fibrous materials.—C. G. SARGENT'S SONS CORP., Graniteville, Mass.

606. **HYDRAULIC POWER UNITS** — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc.—B. F. PERKINS & SON, INC., Holyoke, Mass.

610. **PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY**—Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes Pre-Boarding and Automatic Boarding Machines for hosiery.—PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

613. **HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY**—Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs.—FLETCHER WORKS, INC., Philadelphia, Pa.

616. **FINISHING DRIVES**—32-page booklet covers complete drives Westinghouse has engineered for the textile finishing industry. Describes all types of finishing ranges and discusses advantages of Westinghouse drives for these installations. "Packaged" drives for batch processes covered.—WESTINGHOUSE ELECTRIC CORP., 511 Wood St., Pittsburgh 30, Pa.

617. **AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING**—Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation.—TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

620. **REGENERATION OF ZEOLITE WATER SOFTENERS** — Booklet explains advantages of International's Lixate Process in regeneration of Zeolit water softeners. Shows how it cuts costs and does a better job.—Write: INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

622. **DYEING OF ORLON, DACRON, AND ACRILAN** — Three booklets by Sandoz deal with Orlon dyeing, fastness of Dacron, and general preparation of Acrilan goods for dyeing.—Write: SANDOZ CHEMICAL WORKS, 61-63 Can Dam Street, New York 13, New York.

623. **SELVAGE GUIDER**—The Marshall and Williams positive overfeed and selvage guider is described in a brochure as being developed to meet the most modern requirements of the textile finishing industry. Full description, pictures and advantages discussed. — MARSHALL AND WILLIAMS CORPORATION, 46 Baker Street, Providence 5, R. I.

632. **LUG STRAP WASHERS**—Series 1-C illustrated bulletin detailing right and wring application and use of washers.—E. H. JACOBS NORTHERN DIV., Danielson, Conn.

635. **TWO BURNER VERTICAL SINGER**—Described as consisting of adjustable tension device, air guiders (optional), guide rolls to guide cloth between the burners, and solenoid-controlled pneumatic moth deflector to move cloth from corners when stopping and throws in electrically when starting. Pictured and fully discussed.—HATCH BROTHERS, INC., 32 Kent St., Somerville 44, Mass.

641. **PACKAGE DYEING**—Machines for dyeing extracting, and drying yarn in package and on beams described in illustrated booklet on the theory of package dyeing and equipment for this process.—SMITH, DRUM & CO., Philadelphia 33, Pa.

651. **IMPROVED SHEARING OPERATIONS** — The Slack Selvage Eliminator Bulletin describes this Mount Hope machine, and discusses the speed-up in shearing operation and the elimination of cutting of the material due to slack selvages.—MOUNT HOPE MACHINERY COMPANY, 15 Fifth St., Taunton, Mass.

DYESTUFFS, CHEMICALS, SOAPS . . .

700. **COTTON FINISHING OILS** — New booklet by Twitchell devoted to finishing Sanforized Fabrics contains such specific data as re-wetting speed, imparted softness, resistance to yellowing, and "balance" of these properties. — Write: EMERY INDUSTRIES, INC., Dept. 5, Carew Tower, Cincinnati 2, Ohio.

702. **DEFOAMERS**—Bulletin AA-2 lists uses and properties of Antifoam A, which can be effectively used at 10 to 200 ppm in most industrial applications. Emulsions available, improve dispersability in aqueous systems.—DOW-CORNING CORP., Midland, Mich.

705. **THEORETICAL AND APPLIED SILK-SOAKING** — Attractive 23-page booklet outlining methods of silk-soaking and outlining investigation on the soaking, back-winding and degumming of silk.—HART PRODUCTS CORP., 1440 Broadway, New York 18, N. Y.

706. **RHONITE RESINS** — Booklet describes the Rhonite Resins as being developed to impart handle to fabrics ranging from stiffness through full resiliency to silky suppleness, depending on the demand of the season. Full information and uses given.—ROHM & HAAS COMPANY, Washington Square, Philadelphia, Pa.

708. **CAUSTIC SODA BOOKLET** — Deals with manufacture, its properties, methods of handling and storage, technical data, etc.—ALKALI SALES DEPT., THE DOW CHEMICAL CO., Midland, Mich.

711. **PIXOL**—Recommended as a leveling and penetrating agent, especially for the dyeing of wool, described as being useful as a finish for worsted piece goods. Prevents bronziness in sulphur dyeing on cotton.—AMERICAN ANILINE PRODUCTS, INC., 50 Union Square, New York, N. Y.

713. **LIOVATINE ED**—Vat dyeing assistant increasing penetration and level dyeings with maximum yield of color.—SANDOZ CHEMICAL WORKS, 61 Van Dam St., New York City.

714. **NEW SODA ASH BULLETIN**—64-page edition contains both new material and revisions of previously used data covering the subject. Ask for Bulletin No. 5. — SOLVAY SALES DIVISION, 40 Rector St., New York 6, N. Y.

715. **AQUAROL AND ARKANSAS PRODUCTS**—Bulletin on Aquarol water repellent finish with method of preparing bath; also on other Arkansas products for cotton, wool, silk and yarn, hosiery processing.—ARKANSAS CO., INC., Newark, N. J.

716. **WIDE RANGE SCOURING AND WETTING AGENT**—4-page folder describing Houghton's concentrated, non-ionic, synthetic detergent and wetting agent, Cerfak 1300, usable over entire pH range for efficient scouring and wetting.—E. F. HOUGHTON & CO., Philadelphia 33, Pa.

725. **VAT DYEING OF WOOL**—Write for Calco Technical Bulletin No. 797 outlining fundamental dyeing procedure, and explaining new advances in the technology of wool dyeing and finishing.—CALCO CHEMICAL DIVISION, AMERICAN CYANAMID CO., Bound Brook, N. J.

728. **UNIQUE YARN AND DYEING SERVICE**—

Handy Return Card ▶

List Booklets You Want Tear Out and Mail the Attached Card Now!

Please be sure to fill in your Firm's Name and your position on the Coupon. This service cannot be extended to you unless this information is furnished.

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FIRST CLASS PERMIT NO. 582, SEC. 14.9, P. L. & R., ATLANTA, GA.

TEXTILE INDUSTRIES
806 PEACHTREE ST., N. E.
ATLANTA 5, GA.

Booklet by Franklin Process tells why Franklin Process Yarn Dyeing Service is one of the top package yarn dyeing services. Also includes table showing relative fastness of dyestuffs used on various fibers.

729. **STATIC AND STATIC CONTROLS**—Papers deal with historical background of static electricity and the problems caused by it along with methods of controlling them. — Write DEXTER CHEMICAL CORP., 819 Edgewater Road, New York 59, N. Y.

745. **RAPIDASE FOR DESIZING** — Bulletin explaining in detail the properties and characteristics of Rapidase.—WALLERSTEIN CO., INC., 180 Madison Avenue, New York 16, N. Y.

749. **WATER SOLUBLE GUMS**—Booklet giving the origin, gathering, marketing and uses of water soluble gums. This booklet No. 23 is beautifully illustrated, and is one of the few treatises on the subject. —JACQUES WOLF & CO., Passaic, N. J.

753. **TRITON X-100**—Booklet available describing this highly concentrated detergent and wetting agent, main uses fully discussed and chemical properties brought out.—RHOM & HAAS COMPANY, Philadelphia 5, Pa.

762. **ONYX TECHNICAL DATA SHEETS**—Two new data sheets describing the use, advantages, and applications of Xyno Resins S 09 and Xyno Resin 262—ONYX OIL & CHEMICAL COMPANY, Jersey City 2, N. J.

765. **HOSIERY FINISHES AND FORMULAS**—Attractive new booklet describing the Amalgamated line of hosiery finishes and giving numerous finishing formulas.—AMALGAMATED CHEMICAL CORPORATION, Philadelphia 24, Pa.

766. **DU PONT PEROXIDE BLEACHING SYSTEMS**—New book illustrating and describing this continuous peroxide bleach system. Layouts and other information included.—E. I. DU PONT DE NEMOURS & CO., ELECTROCHEMICAL DEPT., Wilmington, Del.

769. **SURFACE TENSION DEPRESSANT**—The Booklet, "Mercerizing and Alkamerce—The Ideal Dry" which can be used as a wetting agent; a dye leveling agent, a penetrant in package dyeing.—HART PRODUCTS CORP., 1440 Broadway, New York, N. Y.

774. **ROYCE TEXTILE CHEMICALS**—This booklet briefly describes the leading Royce products for textile processing, printing, dyeing and finishing.—ROYCE CHEMICAL COMPANY, Carlton Hill, N. J.

KNITTING . . .

801. **THE WILDMAN SINGLEHEAD FULL-FASHIONED HOSIERY MACHINE**—Literature on request from the WILDMAN MFG. CO., Full-Fashioned Division, Norristown, Pa.

805. **REINER CREELS**—Catalog describing these Single type, magazine, and truck creels for all requirements in the knitting and wearing industry.—ROBERT REINER INC., Weehawken, N. J.

818. **FORGED HEAD ALUMINUM BEAMS**—Bulletin 49-A shows new beam capable of holding high yardage of nylon and rubber warps, with specifications. Also describes permanent mold aluminum tricot and section beams. — MILTON MACHINE WORKS, INC., Milton, Pa.

822. **HIGH SPEED JERSEY CIRCULAR MACHINE**—Booklet describing Supreme's line of high production, body-size and large diameter jersey machine, Model MJ, for underwear and outerwear.—SUPREME KNITTING MACHINE CO., 105 Johnson Ave., Brooklyn 6, N. Y.

828. **THE KIDDE KNITTER**—Bulletin describing this newest in Raschel-type warp knitting machines and higher production attained with it.—KIDDE MANUFACTURING CO., INC., Forrand St. Bloomfield, N. J.

831. **CIRCULAR KNITTING MACHINES**—Brochure pictures and describes the products which can be made on the Brinton small diameter circular knitting machine. Examples of the variety of products which can be made are pictured and the machines described. — H. BRINTON COMPANY, Kensington Ave. and "M" St., Philadelphia, Pa.

SEWING MACHINES . . .

916. **THE SUPERLOCK**—Bulletin 823 describing and illustrating the W & G Superlock overseaming machine.—WILLCOX & GIBBS SEWING MACHINE CO., 214 W. 39th St., New York 18, N. Y.

924. **BUTT-TACKING SEWING MACHINE** — Booklet describes an operating installation of the Merrow single thread butt-tacking sewing machine. Gives performance data, and advantages of butt-tacking. — Write: THE MERROW MACHINE COMPANY, 28 Laurel Street, Hartford, Connecticut.

MATERIALS HANDLING . . .

1003. **CASTERS AND WHEELS**—192 pages, describing casters and wheels suitable for all types of industrial applications. Every mechanical engineer and purchasing agent should have this.—DARNELL CORP., LTD., Long Beach 4, Calif.

1004. **PITTSBURGH COLLAPSIBLE CARGO-TAINERS**—Stacked they lock in place and permit visible inventory; collapsed they nest in small area. Base permits entry by all types of lift trucks. Write for brochure MH-15.—PITTSBURGH STEEL PRODUCTS COMPANY, Pittsburgh 30, Pa.

1006. **LANE CANVAS BASKETS**—16 page illustrated booklet describing the Lane line of canvas baskets for textile use.—W. T. LANE & BROTHERS, Poughkeepsie, N. Y.

1007. **OVERHEAD HANDLING EQUIPMENT** — 56 pages of illustrations showing successful applications of monorail systems to meet every kind of handling problem.—THE AMERICAN MONORAIL CO., 13106 Athens Ave., Cleveland 7, Ohio.

1008. **CASTERS AND WHEELS**—An illustrated booklet with complete specifications showing a complete assortment of Cotton Textile Casters.—THE COLSON CORP., Elyria, Ohio.

1010. **CONVEYOR KEY BOOK**—A guide to production "step-ups" now possible with modern conveying. Shows time-and-effort savings. Well illustrated with photos showing plant layouts and sketches showing where, how and why different types of conveyors are used for maximum results.—LOGAN CO., 1115 Franklin St., Louisville, Ky.

1011. **TEXTILE TRUCKS** — Booklet describing doff boxes, frames and trucks, yarn, waste, platforms, conditioning, steep lap, fiber, utility trucks, etc. Uses and description.—EXCEL TEXTILE SUPPLY CO., Lincolnton, N. C.

1012. **"SERVES YOU RIGHT"** — Is theme of succint review of fork-lift trucks, powered hand trucks and industrial towing tractors, with emphasis on proper planned materials handling systems, which can be obtained from CLARK EQUIPMENT CO., Industrial Truck Div., Battle Creek, Mich.

1013. **"A STORY OF TRACTOR TOOLS AND THEIR USE"**—Comprehensive illustrated guide effectively present in cartoon-style the many principal uses for this type of Equipment. — HYSTER CO., 2903 N.E., Clackamas St., Portland 8, Ore.

1025. **ELECTRIC HOISTS AND CRANES**—Booklets describing a complete line of Electric Overhead, Cab and Floor-Operated Traveling Cranes, and a similar complete line of Electric Hoists. All fully discussed with pictures and engineering diagrams.—SHEPARD NILES CRANE & HOIST CORP., Montour Falls, N. Y.

1027. **SINGLE-BEAM CRANES**—Bulletin No. 136 describing and illustrating the single beam type of overhead traveling crane.—SHEPARD NILES CRANE AND HOIST CORP., Montour Falls, N. Y.

1029. **ELECTRICAL INSULATING MATERIALS** —Bulletin G.F.-50 describes 5 high-strength plastics: Diamond Vulcanized fiber; Vulcoid, A C-D dielectric 6—BOOKLETS—COTTON—JULY ... ... material; Dielecto, a laminated thermosetting plastic; Celoron, a fabric-base molded plastic; and Micabond, mica in most usable form. Full information on each in forms available.—CONTINENTAL-DIAMOND FIBRE COMPANY, Newark, Dela.

1031. **MOTOR-DRIVEN TROLLEY HOISTS**—12-page illustrated booklet describing Robbins & Myers motor-driven trolley hoists. Capacities from 1000 to 20,000 pounds. Bulletin 805-A.—ROBBINS & MYERS INC., Hoist & Chain Div., Springfield, Ohio.

MISCELLANEOUS . . .

1101. **AUTOMATIC BOBBIN REFINISHER**—A descriptive bulletin illustrating and describing method of refinishing throwing bobbins on a production schedule.—J. M. NASH COMPANY, 2300 N. 39th St. Milwaukee, Wis.

1102. **BALING PRESSES**—An illustrated folder describing this manufacturer's complete line of balers for all materials. Both Downstroke and Upstroke models.—ECONOMY BALER CO., Ann Arbor, Mich.

1103. **UNBRAKO SCREWS**—Illustrated 16-page booklet No. 570 gives data on Unbrako hollow set screws, flat knurled point, self-locking features. Includes miscellaneous screw and locking nut data.—STANDARD PRESSED STEEL CO., Jenkintown, Pa.

1107. **AUTOMATIC QUILL POLISHER**—Bulletin describes production machine for refinishing loom bobbins. Tells how quills can be kept in perfect condition at minimum labor cost.—J. M. NASH CO., 2360 N. 30th Street, Milwaukee 10, Wis.

1108. **FABRICATION OF U. S. STAINLESS STEELS**—136 page book covering use of stainless steel in textile equipment from cutting to cleaning. Includes corrosive-resistance tables for chemicals.—CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh, Penn.

1110. **CUTTING MACHINES**—A collection of specification sheets and general descriptive matter covering cutters for thread waste, staple, fiber, etc., complete description and uses.—TAYLOR-STILES & CO., 21 Bridge St., Riegelsville, N. J.

1111. **BRUSHES**—A 26-page booklet is now available which describes and illustrates this manufacturer's line of brushes for the textile industry.—GASTONIA BRUSH COMPANY, Gastonia, N. C.

1112. **THE RANDOM WEB PROCESS**—Bulletin No. 101 describes the Rando-Webber and Rando-Feeder machines, and discusses the origin and development of the Random Web process which produces a non-oriented web suitable for processing into felts, wadding, heavy mats and non-woven fabrics on a continuous basis. Engineering data and cut-away diagrams.—CURLATOR CORPORATION, Textile Division, 565 Blossom Rd., Rochester, N. Y.

1115. **TEXTILE WRAPPING MACHINES**—Brochure describing automatic wrapping machines for various types of textile products, including the new Hayssen V Type Underfold, most protective package made.—HAYSSEN MANUFACTURING CO., Sheboygan, Wisconsin.

1122. **BALING PRESSES** — Bulletins available describing this company's line of motor-driven and hydraulic baling presses for finished-goods, textile fibers, wool, and waste of all kinds.—LOGEMANN BROTHERS CO., 3150 West Burleigh St., Milwaukee, Wisc.

1123. **CHROMIUM PLATING** — New booklet tells how Walhard engineered hard chromium plating service works for industry. Walhard's capacity to produce, controlled quality, and economical operation are discussed along with pictures of the operations.—WALTON AND LONSBURY, Tuttleboro, Mass.

JULY, 1953

Please send, without obligation, additional information on New Equipment and booklets described (give Key numbers) .....

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USE THIS OPPORTUNITY TO INFORM YOURSELF OF CURRENTLY AVAILABLE LITERATURE DEALING WITH MACHINERY, EQUIPMENT AND SUPPLIES FOR TEXTILE MILLS, FILL OUT THE ATTACHED CARD TODAY.

News in Brief

(Continued from page 73)

pay which go with the title, indicating an urgent need for better job evaluation in the middle management brackets. The study was in both manufacturing and non-manufacturing industries and is based on 10,000 questionnaires.

Union Problems. Canadian textile executives were told recently that union demands which have "almost completely washed out the textile industry in the New England States" threatened a similar fate for the $800,000,000-a-year Canadian industry.

Ga. Tech Moves Textile Lab. The A. French Textile School at the Georgia Institute of Technology, Atlanta, Ga., has recently moved its physical testing laboratory into new and enlarged quarters. The new lab was made possible largely through financial aid from the Textile Education Foundation, which was supplemented by school funds. The new lab is located on the ground floor of the Hightower Textile Building.

"Right-to-Work" Upheld. The "Right-to-Work" law was upheld recently by a U. S. Supreme Court decision in Virginia. The decision held that peaceful picketing of a construction job in that state had violated the law. The Virginia statute sets forth that denial of work on account of membership

New Insignia

of the Textile Chemical Manufacturers Association is reproduced above. Composed of white letters on a black background, it was designed by Miss Sarah S. Shucker of the Rhode Island School of Design.

Association members saw the insignia for the first time during a recent banquet at the Roosevelt Hotel in New York, when Miss Shucker was awarded a $100 prize for her design which was chosen over entries from 11 textile schools.

Organized in 1931 as the Sulphonated Oil Manufacturers Association, the group later changed its name to Processing Oils & Chemicals Association. The present name was adopted last year.

CROMPTON RICHMOND COMPANY INCORPORATED FACTORS

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Southern Factoring For Southerners

No other factoring organization knows the South better than we do. We've been selling to the South for 100 years. We've been producing in the South for over 25 years. We know your business language and business problems because we are fellow producers and distributors. We're on your side of the fence.

Crompton is truly The Human Factor. We'll open the dam that holds so much of your working capital in accounts receivables. We'll replace it with immediate cash and relieve you of all credit chores and risks. You'll stay continually liquid — because you'll have maximum bank balances instead of receivables.

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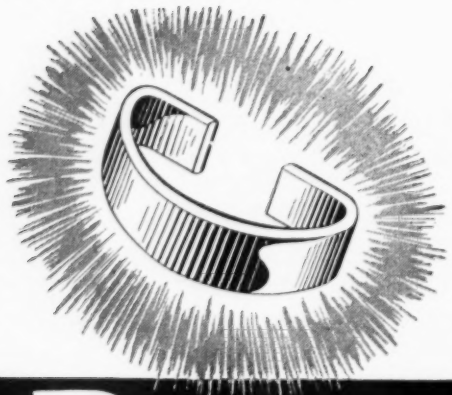
CROMPTON-RICHMOND CO., INC.
1071 Avenue of the Americas, New York 18, N. Y.



DARY
Ring Travelers

WELCOME TRAVELERS!

The welcome sign for Dary Ring Travelers has been up in spinning and twisting rooms for well over 50 years!

Dary users know they can depend on steady performance regardless of the tough tests they give Dary Travelers.

So, welcome your Dary Ring Traveler man the next time he stops by!

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
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JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD RHYMER, BOX 2261, GREENVILLE, S. C.

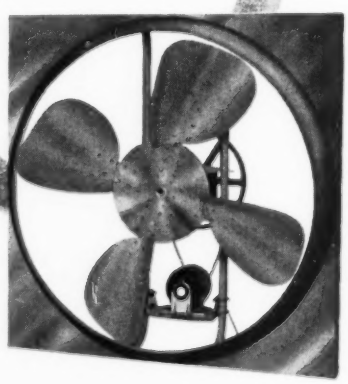
AT LAST!

A MAINTENANCE-FREE INDUSTRIAL FAN FOR TEXTILE MILLS

Murray's new DeLUXE line of industrial fans presents an entirely new concept in textile mill ventilation efficiency. The new Murray DeLUXE models—and *only* Murray's DeLUXE line, of the entire ventilating fan field—offer:

- *Permanently sealed, lifetime-lubricated ball bearings in* both *fan and motor—which* never require lubrication or maintenance. *Install 'em and forget 'em.*
- *Full 10-year guarantee—except for belt and motor which carry standard manufacturer's guarantee.*

NOTE: No industrial ventilating problem is too large, too small, or too impossible for Murray's industrial engineering department. Send us your problems.



INDUSTRIAL FANS FOR TEXTILE MILL VENTILATION

Murray Company of Texas, Inc.

H. C. BIGLIN COMPANY, INC. • 177 HARRIS ST., ATLANTA, GA.

Attractive Package Utilized to Introduce One-Size Ladies' Hosiery

To introduce a new brand of women's nylon hose with one-size expanding foot, Chester H. Roth Co., Inc., of New York used this folding carton designed and made by Robert Gair Company, Inc., New York.

Platinum One-Size Nylons are individually packed in a carton with crown-shaped cutout through which color and texture of hose can be viewed.

A separate interior card holds a bottle of Nylast rinse firmly in place inside the carton. This card is printed with an entry blank for an $11,000 slogan contest for the hose.

or non-membership in a union is contrary to public policy, and the law also provides for damages.

Short Course on Statistical Quality Control. Explanation of the more common procedures, examples of their use, practical work by students, and advanced techniques are components of a short course on Statistical Quality Control to be held at Clemson (S. C.) School of Textiles, July 27-Aug. 7, 1953.

Progress Report for Waste Dealers. A colorful, 28-page booklet commemorating forty years of progress by the secondary materials industry has been issued by the National Association of Waste Material Dealers, Inc. The booklet depicts the parallel growth of that organization and the various portions of the industry.

Golden Fleece Awards. Lewis A. Hird, treasurer, Samuel Hird & Sons, Inc.; Leo Durocher, manager, New York Giants; John C. Daly, news commentator; and Charles R. Slight, Jr., president, NAM; received the National Association of Wool Manufacturers' Golden Fleece awards at the group's 88th annual meeting in New York. Mr. Hird is the first member of the industry to receive the honor.

New German Dyestuff. Wollechtgrau BL is the name given to a new dyestuff recently announced by Farbwerken Hoechst, Germany. The dye is claimed to be water, light, grease, and brine resistant, and is suitable for application to cotton, linen, wool, silk, and mixture yarns.

An Executive Views the News in Textiles

(Continued from page 77)

This exceeded March 1952 Japanese production by 20,000,000 square yards.

We think it is high time the American people face up to this situation of "Trade-Not-Aid." It almost seems as if we have a national guilt complex and that we are trying to atone for our sins by blaming ourselves for the world's business failures.

For ourselves, we are strongly suspicious that they are bowing to us subserviently while laughing up the sleeves of their kimonos. Perhaps the important question for us to ask them is: "We have *already* cut our tariffs. What are you going to do with regard to embargoes and other trade restrictions?"

Are You Getting a Fair Day's Work for a Fair Day's Pay?

As Production Engineers we specialize in the utilization of

LABOR — EQUIPMENT — MATERIAL

Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"Their representatives employed in installing this system were of high caliber, and we are greatly pleased with the result of their work."

ONE OF THE COUNTRY'S LEADING HOSIERY PLANTS

Write for a free copy of "Labor and Management Benefit by Industrial Engineering Principles," and our booklet "A Fair Day's Pay and in return A Fair Day's Work".

AMERICAN ASSOCIATED CONSULTANTS, Inc.

D. S. KEOGH, President
J. J. SKELLY, Vice Pres. and Gen. Mgr.
250 PARK AVENUE
NEW YORK 17, N. Y.

GRANT BUILDING
PITTSBURGH, PA.

H. B. CRAFT, Vice President
in Charge of Southern Operations
30 CAMDEN ROAD
ATLANTA, GA.

CARTER TRAVELERS

In every way the CARTER TRAVELER of today is the best traveler we have ever produced. Precision machinery, skilled workmanship and superior materials are not enough. Today — every step of the way — the production of CARTER TRAVELERS is scientifically controlled by a modern metallurgical laboratory.

This scientific control is the reason why CARTER TRAVELERS lead the way to higher spindle speeds—and profits.

CARTER TRAVELER COMPANY
DIVISION OF
A. B. CARTER, INC.
GASTONIA N. C.

REPRESENTATIVES

R. A. Haynes, Special Representative	114 W. Fifth Ave., Gastonia, N. C.
W. L. Rankin	501 S. Chester St. Gastonia, N. C.
P. L. Piercy	128 Hudson St. Spartanburg, S. C.
J. R. Richie	3014 Lewis Farm Road, Raleigh, N. C.
J. W. Brown	P. O. Box No. 560, LaGrange, Ga.
J. K. Davis	P. O. Box No. 129, Auburn, Ala.
C. E. Herrick	44 Franklin St., Providence, R. I.
Hugh Williams & Co.	47 Colborne St., Toronto 1 ,Canada

SINGLETON'S... THE APRON OF CHOICE FOR SACO-LOWELL SPINNING AND ROVING

Singleton's New-Type, Resin-Reinforced Draft Horse Leather Aprons are available either Endless or Open. These improved aprons now have more than 400% greater resistance to abrasion than ever before.

Two Southern mills just completing six-months tests with Singleton Treated Leather Aprons have just reported a 50% reduction in "ends down." (1st mill on Gwaltney, 2nd mill on Dual Aprons). A third mill reports that one set of Singleton Treated Leather Aprons outlasted two sets of rubber aprons.

Singleton Aprons do last longer—they have a longer **effective yarn life**—a more lasting control over the evenness of yarns produced—than any other apron made today.

To test these better-than-ever Singleton Aprons for yourself, write, wire or telephone today to the Company, or to the representative nearest you.

RUSSELL A. *Singleton* & SONS
BLANCO, TEXAS

Southern Manager — Tel. 2-2682
GEO. W. SINGLETON, P. O. Box 1496, Greenville, S. C.
S. C. Representative — Tel 2-2682
GEO. W. SINGLETON, JR., P. O. Box 1496, Greenville, S. C.
N. C. Representative
HAMNER SALES AGENCY, P. O. Box 267, Gastonia, N. C.

SUPPLIERS News

WHAT THEY ARE DOING

Officers elected to new positions at **Acme Steel Co.** are: Chester M. MacChesney, formerly chairman of the board, now chairman of the executive committee; Carl J. Sharp, from president to chairman of the board; Fred M. Gillies, president; Guy T. Avery, executive vice-president; Bartlett Richards, vice-president of production; Thornton A. Rand, vice-president and treasurer; Donald P. Mullaney, secretary.

John C. Spencer, in the sales department since 1949, is now a member of **Aluminum Company of America's** general advertising staff.

Lawrence A. Kluger, formerly assistant technical director of the laboratory facilities, is now with the sales staff of the Paterson branch of **American Aniline Products, Inc.** His territory will include Paterson and metropolitan New York.

John R. Burkett has been selected by **American Cyanamid Co.** to manage the business of the Calco Chemical Division in Canada, known as North American Cyanamid Ltd.

Polymer Productos Quimicos do Brazil of Sao Paulo, associate of **American Polymer Corp.**, has been officially opened. This is said to be the first all-purpose polymerization plant in South America to meet the needs for resin polymers for the leather, paint, plastic, and textile industries.

Two new vice-presidents at **Bausch & Lomb Optical Co.** are: Lysle B. McKinley, in charge of scientific instrument sales; and Carl A. Day, in charge of manufacturing.

Beckman Instruments, Inc. has transferred its New York offices to a new 20,000 sq ft plant in Mountainside, N. J.

H. O. Kauffman, formerly research director, has been appointed technical director of **Buffalo Electro-Chemical Co., Inc.**

H. D. S. Chafee, previously manager of the Pittsburgh, Seattle, and New England sales offices, has been appointed advertising manager of **B-I-F Industries.**

Paul Jones has succeeded Merrill A. Watson as president of the **Carpet Institute.** He was formerly with the National Cotton Council.

R. S. Dicks, previously with Shell Oil Co., has joined the textile division of **Celanese Corp. of America.** He will help direct the process engineering section in a study of the productivity of all chemical processing equipment in the textile division plants. E. H. Bogardus, sales manager of rayon yarn, has retired.

Eriez Manufacturing Co. has set up a district office at 25 S. Easton Road, Glenside, Pa., with Bruce A. Wilson

Mr. Wilson

as manager. The territory includes Delaware, Maryland, parts of Pennsylvania, Virginia, and New Jersey.

General Dyestuff Corp. has appointed Harold Halvorsen head of the mixed fiber department. Richard Hall is now head of the naphthol dedepartment.

General Electric Corp.'s newly established small integral motor department is under the direction of Thorn L. Mayes. Assisting him are L. Dean Fowler, manager of marketing; Oscar L. Weitzman, manager of manufacturing and employee relations; J. Herbert Behm, manager of engineering; and Martin L. Kresge, manager of finance. The welding department, now located in Fitchburg, Mass., will be transferred to York, Pa., by the end of March, 1954, to allow for expansion both in this department and in the small turbine and supercharger department, which will remain in Fitchburg. The Trumbull Electric department has ap-

When you need fast-wetting action, better detergency — specify

LAUREL SYNTHETIC DETERGENTS

Hundreds of processors rely on Laurel Synthetic Detergents for speedier penetrating and scouring action on all fibers and fabrics. Unusual stability . . acid, alkali or hard water. Available in powder or liquids. Write today for samples and recommendations.

Coning and Spinning Oils for all fibers. Anti-static compounds. Penetrators. Finishes for specific applications.

Laurel Brand

LAUREL SOAP MANUFACTURING CO., INC.
Wm. H. Bertolet's Sons
Established 1909
2603 E. Tioga St., Philadelphia 34, Pa.
Warehouses
Paterson, N. J. • Charlotte, N. C.
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SAVE EQUIPMENT
SAVE FLOORS
SAVE MONEY
and TIME

DARNELL
Casters & Wheels

If you want maximum floor protection, economy and efficiency Demand Darnell Dependability...Made to give an extra long life of satisfactory service . . . . .

Always
SWIVEL
and ROLL

Free Manual

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
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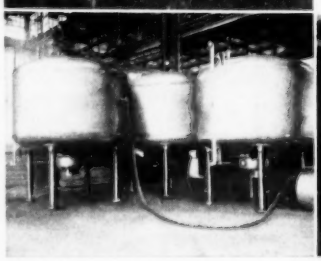
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

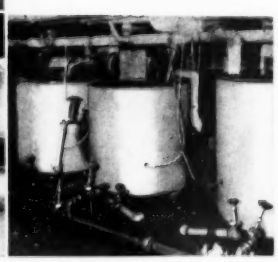
TANKS and vessels that are CORRECT in design

COLE has specialized in the design, fabrication and erection of elevated tanks, and vessels for the storage of textile liquids, for four generations.

We build dye-vats, kiers, starch-kettles, acid tanks, jib-boxes and other processing vessels for the finishing and dyeing industry —in stainless steel, nickel-clad steel, or of standard steel lined with Monel metal.

Our long experience in the design and fabrication of elevated tanks and vessels for the textile industry may be of help to you. Write for latest Cole catalog—"Tank Talk."





Established 1854
R. D. COLE MFG. CO.
NEWNAN, GEORGIA
ELEVATED TANKS • VESSELS • CYLINDERS
TOWERS • BINS • STANDPIPES

SUPPLIERS News
WHAT THEY ARE DOING

pointed Alfred E. Carpluk to the sales engineering staff. He replaces J. J. Jamison, now on active duty with the Navy.

Glover Southern, Inc., Greensboro, N. C., a southern outgrowth of Glover Wood Turning Co., Inc., West Millbury, Mass., is now manufacturing all types of automatic loom filling and warp spinning bobbins, specializing in bobbins made of dogwood. R. E. L. Holt, Jr., is president; Floyd A. New, treasurer; and Weldon P. Glover, vice-president and general manager. Morris Copeland is Georgia and Alabama sales agent for the bobbins.

Fred Nave, formerly with Synthane Corp., is now southern representative for **U. S. Textile Machine Co.** He will operate from headquarters in Elizabethton, Tenn.

Steven P. J. Wood, with the firm since 1936, has been elected president of the **Warner Electric Brake & Clutch Co.**

Albert E. Forster has succeeded Charles A. Higgins as president of **Hercules Powder Co.** He has served as vice-president and a member of the executive committee since 1951.

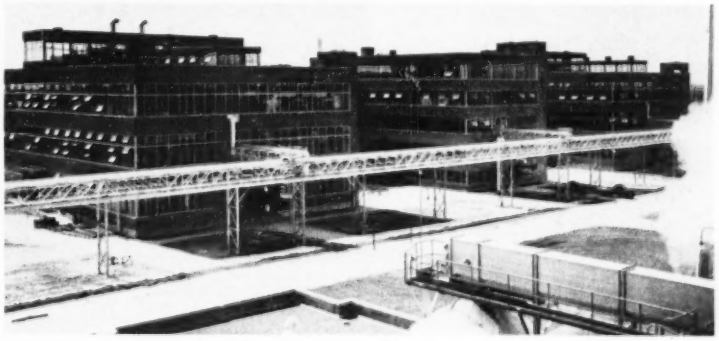
Frank F. Kolbe, United Electric Coal Co., was recently elected to the board of directors of **Clark Equipment Co.** The firm has announced the acquisition of all capital stock of The Ross Carrier Co. of Benton Harbor, Mich. Production of the two companies will be integrated.

Collins Bros. Machine Co., Pawtucket, R. I., has taken over all the new and replacement parts for banding machines, reels, skein winders, and spindles of the **Easton and Burnham Machine Co.** of Central Falls, R. I.

Ira C. Keller has retired as executive vice-president of **Container Corp. of America.**

Richard S. Thomas has been appointed plant manager of **Courtaulds (Alabama) Inc.'s** plant at Le Moyne, Ala. He also was elected vice-president-operations of the firm.

Charles C. Switzer is now vice-



New $18,000,000 Ciba Dyestuff Plant Dedicated

A recently completed organic chemical plant at Toms River, N. J., was dedicated on June 4 by **Ciba Co., Inc.** This multi-million dollar project was built for the manufacture of anthraquinone vat dyestuffs, and provision has been made for a normal production capacity of four million pounds of paste dyestuffs a year, in a broad range of colors. For this amount, the works will require a total of about twenty-two million pounds of various chemicals. With certain modifications, in case of a national emergency the output could be doubled.

A significant feature of this Toms River plant is that not only are the vat dyestuffs produced from anthraquinone, but the anthraquinone itself is made there.

One of the three-story structures is for processing flammable materials only; its twin in outward appearance is for non-flammables. The building in the center of the group is for final processing, such as making dye-cake into paste, or drying, grinding, and mixing as powders. Control laboratories are located on its top floor.

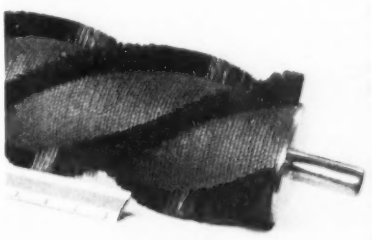
3 TYPES of Metal Core BRUSHES

to fill every requirement called for by the many different applications in the textile field.

1. Fineset type

very even application or brushing for Furnishing color Raising, and Laying Brushes.

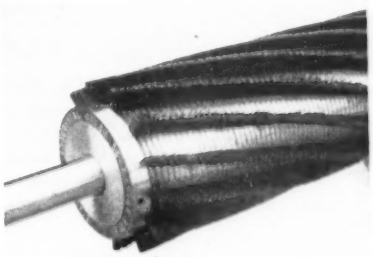
2. Fineset Spiral type



Open Cord Brush

used for cleaning purposes, carding, thread dressing, etc.

3. Wire Wound (tufted)



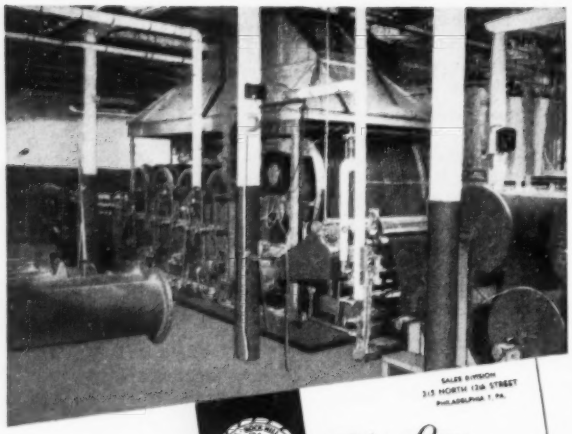
Blanket Scrubber Brush

where a scrubbing action is wanted: as in Blanket Washing, etc.

EVERY BRUSH GUARANTEED

INDUSTRIAL BRUSH CO.

LITTLE FALLS NEW JERSEY



SALES DIVISION
315 NORTH 12th STREET
PHILADELPHIA 7, PA.

GOLD-TEX Fabrics Corp.

MILL DIVISION · P O BOX No. 630 · ROCK HILL, S C

October 13, 1952

Mr. William Johnson, General Manager
Charles B. Johnson Machine Works
P. O. Box 1507
Paterson, N. J.

Dear Bill:

After twenty-one months of operation of the nine cylinder slasher we are so highly pleased that we would like to express our appreciation of the job that has been done here.

Frankly, when the machine was recommended by your representative, Tom Lucas of Lucas Associates, Inc of Charlotte, N. C., there was considerable doubt in our minds as to the feasibility of this type of equipment for our heavy cotton yarns. However, this one nine-cylinder machine has replaced three conventional two-cylinder cotton slashers. We also find that our weave room efficiency increased immediately upon the installation of the slasher because of the better w nd warp.

We are highly pleased with this machine from the standpoint of production and return on investment.

Thanking you, we are

Yours truly,
GOLD-TEX FABRICS CORP.
L. M. Allison
Plant Engineer

Jno. D. Rollins
General Manager

lma/b

HIGHLY PLEASED With JOHNSON SLASHER Says GOLD-TEX.

"This one nine-cylinder machine has replaced three conventional two-cylinder cotton slashers . . .
"Weave room efficiency increased immediately . . .
"Highly pleased from the standpoint of production and return on investment," says GOLD-TEX.

Full story on request

Charles B. Johnson

MACHINE WORKS

PATERSON, NEW JERSEY

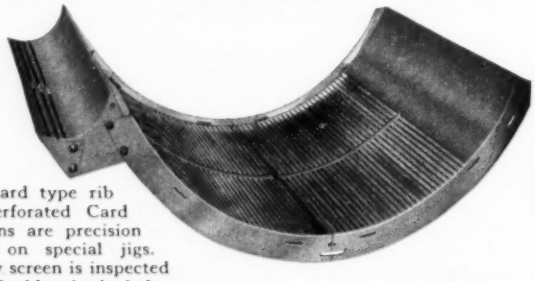
REPRESENTATIVES

New England:	*Canada:*	*For the South:*
J. S. Fallow & Co.	**J. S. Fallow & Co.**	**Lucas Associates, Inc.**
New Bedford, Mass.	**4846 Sherbrooke St., W.**	**Charlotte 1, N. C.**
	Montreal, Quebec, Canada	

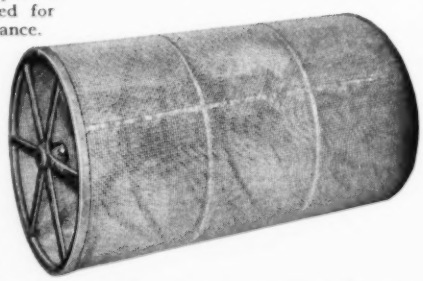
MORE PRODUCTION AT LOWER COSTS

with GASTONIA TEXTILE SHEET METAL PARTS

The quality and the profit of your end product starts at the beginning—where preparatory machinery must be geared for efficient, economical volume production. That's our job—a job for specialists with the reputation for top quality products, painstaking workmanship and reliable service.

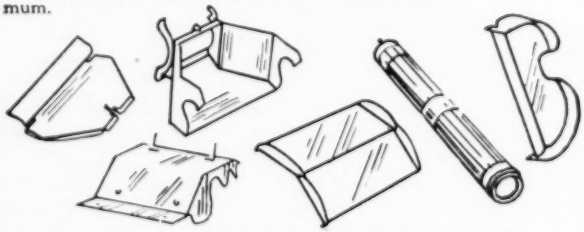


Standard type rib or perforated Card Screens are precision built on special jigs. Every screen is inspected and double checked for accuracy and tolerance.



Picker, Condenser and Waste Machine Screens of maximum strength and durability are constructed of the best materials available.

New and rebuilt Cylinders are dynamically balanced to reduce vibration to an absolute minimum.



Years of practical experience—the finest of raw materials—and precision machinery in the hands of skilled workmen go into every product.

GASTONIA TEXTILE SHEET METAL WORKS, INC.
GASTONIA, NORTH CAROLINA

A SHEET METAL WORKS SERVING TEXTILE MILLS

president in charge of the textile sales division of **The Keever Starch Co.** He has been manager of the division for the past five years.

New member of **The Chemstrand Corp.'s** sales department is Robert H. Born, who will make his head-

Mr. Born

quarters in the firm's New York sales offices. Mr. Born was formerly with Greenwood Mills, Inc.

Herman L. Fellton, formerly with Orkin Exterminating Co. as vice-president in charge of technical operations, has gone into business for himself as a sanitary engineer consultant. Mr. Fellton, whose office is located at 15 Peachtree Place, N.W., Atlanta, Ga., will be available for consultation on food plant and industrial sanitation, insect and rodent control, and other sanitary engineering and entomological matters.

Joseph F. Nichols will represent **Finetex Incorporated** in the Pennsyl-

Mr. Nichols

vania territory. He was formerly with Goodman and Theise Co., Scranton, Pa.

Donald D. Pascal, vice-president in charge of sales, and Herbert C. Piel, vice-president in charge of the Indianapolis plant, have been elected to the board of directors of **National Starch Products, Inc.**

Horace Wood, formerly with Charles Ide & Co., is now secretary of the **Wool Associates of the New York Cotton Exchange, Inc.** He succeeds Stanford L. Luce, deceased.

Orr & Sembower, Inc., Reading, Pa., has opened a New York office at 51 East 42nd Street, with Jared Darlington, III, as district manager. **C. A. Breed, Inc.,** has been appointed as sales and service representative handling the firm's "Powermaster" packaged automatic boilers in the Boston area.

The Metlon Corp. has moved to new and larger quarters in the same building, 432 Fourth Ave., New York City.

A new factory for the Micro Division of **Minneapolis-Honeywell Regulator Co.** is being opened at Warren, Ill.

H. C. Carlson has been appointed manager of the sales department of the chemical division of **Koppers Co., Inc.** Succeeding him as midwestern district sales manager is L. R. Hunter. T. M. Osborne is now manager of the newly-combined chemical and gas department of the engineering and construction division. He was previously manager of the chemical department. Serving as his assistant is A. J. Abrams. J. H. Tassig, Jr., is sales manager of the department.

Pittsburgh Corning Corp. has moved its general offices to new

SUPPLIERS News — WHAT THEY ARE DOING

quarters at One Gateway Center, Pittsburgh 22, Pa.

New southeast district manager of **The Diamond Chain Co., Inc.,** is Jack E. Cooper. His headquarters will be

Mr. Cooper

at 92 14th Street N.E., Atlanta, Ga. Mr. Cooper was previously in the Chicago office of the firm.

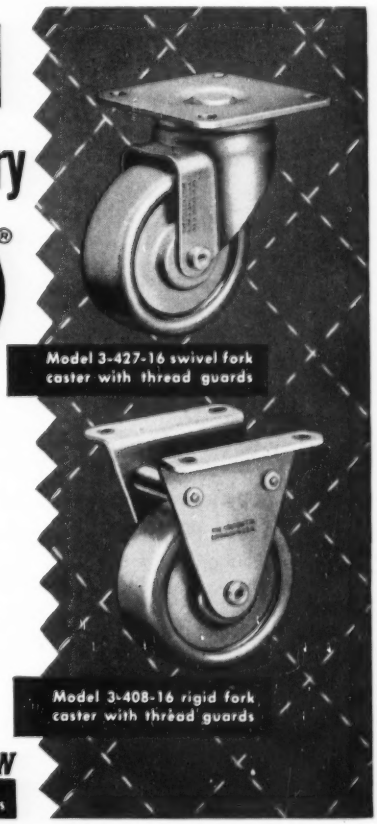
Michael J. Batenburg has been appointed general advertising manager, and Richard W. Dittmer, assistant director of public relations, for **Pittsburgh Plate Glass Co.** Both are

Designed
by the Textile Industry
built by Colson®

Our friends in the Textile Industry worked with us in developing casters and materials-handling trucks to meet their needs—*exactly*. The result is a line of casters, hand trucks, platform trucks, box trucks, and drum and barrel trucks that can add extra efficiency to any mill operation. COLSON Casters roll easily over all floors, swivel freely, are rust resistant. Many models have thread guards. Write us or consult the yellow pages for the COLSON office near you.

Write for free catalog—
"COLSON Trucks and Casters"

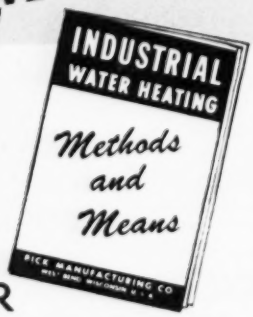
THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS LIFT-JACK SYSTEMS INDUSTRIAL TRUCKS



WAIT!

WE'VE GOT SOMETHING TO GIVE YOU!

Free!

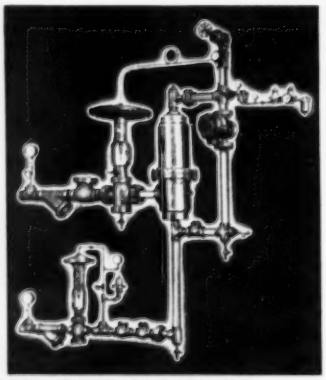


Booklet with the
ANSWERS
TO YOUR
HOT WATER
PROBLEMS! NO OBLIGATION

Get the Facts About the Sensational

Pick INSTANTANEOUS WATER HEATERS

Industries all over America are finding Pick Heaters the money-saving answer to their hot water problems. Water is heated INSTANTLY by steam injection to exact temperature desired and in volume needed. Easy to install — no storage tanks required.



Pick STEAM INJECTION WATER HEATERS

FIND OUT HOW TO CUT HOT WATER COSTS...

. . . MAIL THIS COUPON TODAY!

Pick Manufacturing Co., Dept. 400
West Bend, Wisconsin

Without obligation send your booklet on how Pick Heaters cut costs of hot water used for purpose checked.

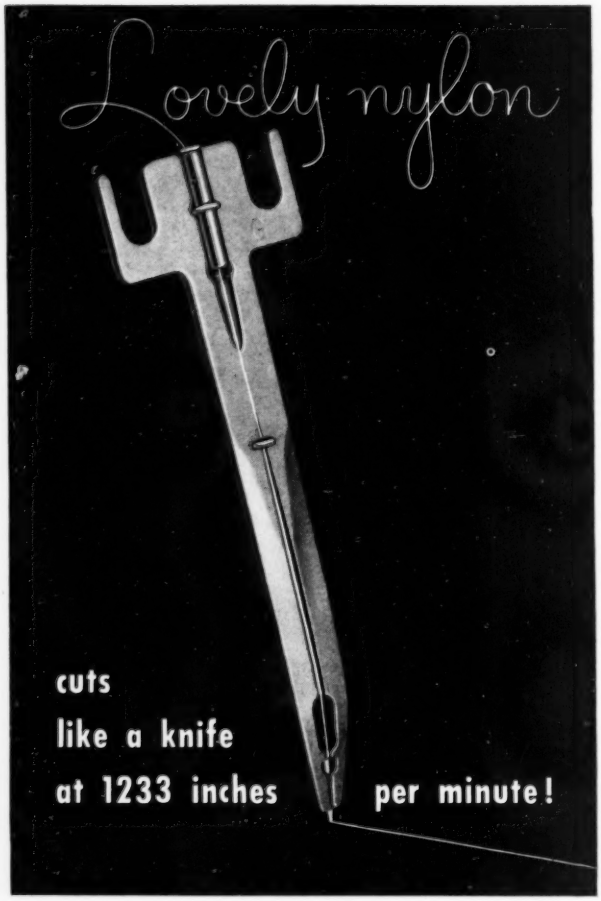
☐ PRODUCTION ☐ WASHUP ☐ SHOWERS

NAME .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....



Through the tubes of this Lieberknecht carrier, nylon yarn races at a speed of 80 to 85 courses—1160 to 1233 inches—per minute. Is there any wonder why it eventually grooves the best of thread guides?

Karl Lieberknecht prolongs the life of original and replacement carrier tubes by forming them from Superior 52100 alloy steel tubing purchased through the local warehouse distributor. Lieberknecht uses two sizes in their patented design—.050" O.D. x .032 I.D. and .126" O.D. x .078 I.D.

If you have use for tubing—**for thread guides, needles, warp bars, welt rods or any other textile purpose**—let Superior engineering and production help you to longer wear and lower costs. Write for Bulletin 32. Superior Tube Company, 2007 Germantown Ave., Norristown, Pa.

Round and Shaped Tubing available in Carbon, Alloy and Stainless Steels, Nickel Alloys and Beryllium Copper

Superior
THE BIG NAME IN SMALL TUBING

All analyses .010" to ⅜" O.D.
Certain analyses (.035" Max. wall) up to 1¾" O.D.)

West Coast: Pacific Tube Company, 5710 Smithway St., Los Angeles 22, Calif. UNderhill 0-1331

newly created positions. John H. Clark is now sales representative of the New York district office of the firm's fiber glass division. He was previously with Owens-Corning Fiberglas Corp.

Henry R. Billings, comptroller of the firm, has been elected to the board of directors of **Draper Corp.**

W. Harry King has joined **IPA Southern, Inc.,** as manager of southern operations. He will make his

Mr. King

headquarters at 610 S. C. National Bank Building, Greenville, S. C.

Lee C. Hopper was recently appointed advertising manager of **The Elwell-Parker Electric Co.,** Cleveland, Ohio, and in addition will direct export sales activities. He succeeds C. B. Cook, retired.

New sales promotion manager of the container operations division of **Robert Gair Co., Inc.,** is Paul C. Meelfeld, formerly with Hinde and Dauch Paper Co.

A new addition to the technical sales staff of **The Hilton-Davis Chemical Co.** is John J. Kelleher, who will

Mr. Kelleher

call on textile mills in New York, New Jersey, and Pennsylvania.

Raybestos-Manhattan, Inc., has announced the opening of a modern rubber roll covering plant for its subsidiary, The Manhattan Rubber Manufacturing Co., at Neenah, Wis.

Thomas D. Johnson has joined the Atlanta, Ga., sales application engineering staff of **Reliance Electric & Engineering Co.** A branch office has been established in Baltimore, Md., at 13 West 25th St., staffed by A. C. Schettler and W. C. Mitchell, sales engineers.

James M. Smith of the Chicago office will represent **Standard-Coosa-Thatcher Co.** in the territory of the late M. Arnold Henderson, with the exception of Ohio, which will be handled by R. Dan Pullen of the Cincinnati office. A new addition to the Greensboro, N. C., office is Decatur Cunningham.

Effective June 1, **A. M. Romero** severed his connections with Standard Mill Supply Co. and established his own export management organization at the Empire State Building, 350 Fifth Ave., New York City.

At a dinner meeting of the Mid-Atlantic Assembly of the National Metal Trades Association recently, H. Thomas Hallowell, Jr., president of the **Standard Pressed Steel Co.,** was presented with the annual achievement award of the association. The award was made in recognition of the industrial relations program in operation at his Jenkintown, Pa., plant, for promoting progressive management practices, and for achieving a closer coordination between industry and educational institutions.

SUPPLIERS News
WHAT THEY ARE DOING

Stanley W. Freeman, previously with General Dyestuff Corp., has joined **Pittsburgh Coke & Chemical Co.** as manager of the Fine Chemicals Division's office in Providence, R. I., and sales representative in the New England territory.

Mr. Freeman

E. H. Kittredge, Jr., was recently

IT'S PURE LOGIC...

In modern time, when the success or failure of a mill depends so heavily on its technical knowhow, a mill man can't afford to overlook any source of information that may help him make his operation more efficient.

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806 PEACHTREE ST. ATLANTA, GA.

SUPPLIERS News
WHAT THEY ARE DOING

elected to the board of directors of **Texize Chemicals, Inc.**, Greenville, S. C. He has been general manager of the household products division since 1951. J. H. McGee has joined the sales and service staff of the industrial division.

Textile Specialty Co. is now representing **Henry K. Barnes Co.**, Salem, Mass., specialists in all types of aprons for woolen and worsted systems.

Union Carbide and Carbon Corp. has appointed John Conway assistant sales manager for industrial chemicals of Carbide and Carbon Chemicals Co. He has been with the firm since 1935.

Novelty Bias Binding Co., Chelsea, Mass., is now distributing **United States Rubber Co.'s** U. S. tension tape to manufacturers of men's, women's, and children's underwear, pajamas, slacks, and other garments. **Rubber Fabrics Co.** of New York City is also a national distributor of the tape.

Charles E. Burns, formerly with Matthews Equipment Co., has become associated with **United States Supply Co.** as New England representative.

W. Chester Cobb has been promoted to commercial vice-president of **Arnold, Hoffman & Co., Inc.**; Thomas H. Roberts is technical vice-president; and Reid Tull was appointed sales manager. New members of the sales staff are Lowell Shive, formerly with Sellers Dyeing Co., Inc., and G. Allen Dickson, who was previously with Stillwater Worsted Mills, Inc.

Mr. Dickson

Mr. Shive

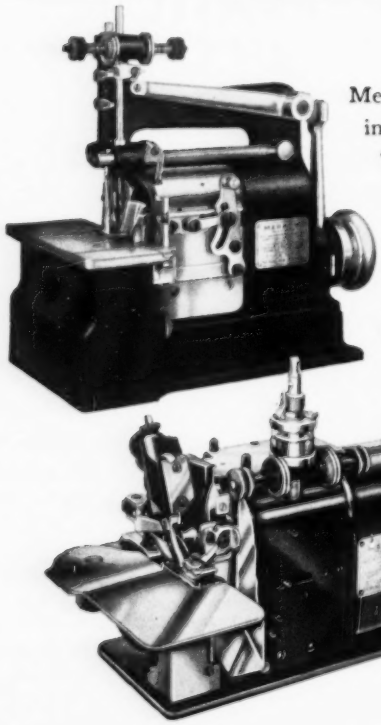
John M. Reeves, president of Reeves Brothers, Inc., has succeeded Saul F. Dribben of Cone Mills, Inc., as president of **Worth Street Inc.** Newly elected vice-presidents are Marvin R. Cross, Greenwood Mills, Inc., and George W. Walker, Neuss, Hesslein & Co., Inc.

H. H. McCall of **J. O. Ross Engineering Corp.**, New York, N. Y., now has his headquarters at 3182½ Peachtree Road, N. W., Atlanta, Ga.

Werner Textile Consultants have opened new southern headquarters at 306 Ponce de Leon Ave., N.E., Atlanta, Ga. J. Paul Mills is in charge of all southern operations, with Jack C. Werner in charge of the Atlanta office.

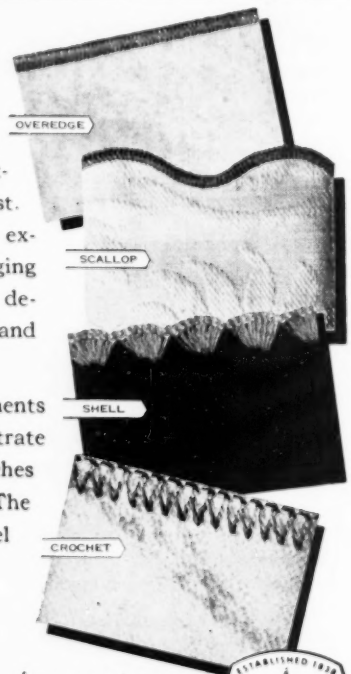
Vice-presidents recently elected at **Westinghouse Electric Corp.** are: Bruce D. Henderson, in charge of purchases and traffic; William C. Rowland, in charge of manufacturing and repair division; Franklin L. Snyder, defense products division; C. Swan Weber, in charge of the Washington office; Robin S. Kersh, eastern district. Leslie E. Lynde succeeds Mr. Snyder as manager of the aviation gas turbine division. Elected to the board of directors was John J. McCloy, board chairman of the Chase National Bank.

Don't overlook Overedging



Merrow Machines for overedging assure maximum production with low maintenance cost. These machines reflect over 60 years' experience in the manufacture of overedging and overseaming machines. They're designed to produce work with speed and ease of handling.

Don't overlook Merrow if your requirements call for overedging. Let us demonstrate the work of these machines on swatches of your own fabrics. Write to The Merrow Machine Co., 2805 Laurel St., Hartford 6, Conn.



Over a century of experience

MERROW

TRADE MARK REG

Automatic Hand Dryer

(Continued from page 81)

discarded towels.

Air drying also protects hands against chapping since it does not remove natural oils in the skin. This appeals to female operatives especially. Another benefit is significant reduction of gross contamination of the hands.

The National Dryer is a compact, cleanly designed unit powered by a 1/10 hp, 7500-rpm motor. It has a double inlet centrifugal type fan which delivers 152 cu ft of air per minute through a 2,140-watt heating element which raises temperature of discharged air to 135 F in a 72 F room.

Dryer is actuated by push-button and an automatic time cycle device cuts it off after 30 seconds. Nozzle can be inverted for face drying.

National Dryer Sales Corp., 616 West Adams St., Chicago, Ill.

For additional data, request item G-801, using Handy Return Card on page 184.

NEW Equipment AND MATERIALS

Other items are described on pages 79 and 81

Device for Putting Travelers on Spinning Rings Saves Time and Money

Speed and economy are among the advantages claimed for a new French invention which rapidly places travelers on spinning and twisting rings. It eliminates the slower snapping on of the rings by hand and the usual dropping of a certain number of them on the plant floor.

In use the device is held in the operator's left hand, the travelers coast down a tubular magazine and are snapped over the rings by a simple downward motion of a lever in the right hand. No damage to either traveler or ring is entailed.

Special training or skill is not required for the use of the machine, and it will snap on 500 travelers in ten minutes. The apparatus is available in three models, to handle small, medium, and large travelers.

Rodger L. Simons, 50 Broad St., New York 4, N. Y.

For additional data, request item G-120, using Handy Return Card on page 184.

Floating Bottom Truck Keeps Load in Reach of Operator

Designed to eliminate the necessity for operatives having to stoop, bend, and strain, the Excel floating bottom truck always keeps the load within easy reach of the operator.

The floating action is entirely automatic and adjusts itself according to the load. No attention from the operator is required.

A specially engineered stabilizer assures positive, free, and level action of the bottom, regardless of position of load in either end or in both ends. Rollers in edge of bottom eliminate bind or drag.

Patent on this development is pending.

Excel Textile Supply Co., Lincolnton, N. C.

For additional data, request item G-116, using Handy Return Card on page 184.

Flat Bundle Fiber Tester

A new instrument for tensile testing of cotton fibers in flat bundles incorporates numerous innovations yielding results more comprehensive and significant than from previously available equipment. Known as the Clemson Flat Bundle Fibre Tester, this instrument is a development by Scott Testers, Inc., of an instrument originally devised by Dean Hugh M. Brown of Clemson Agricultural College, Clemson, S. C.

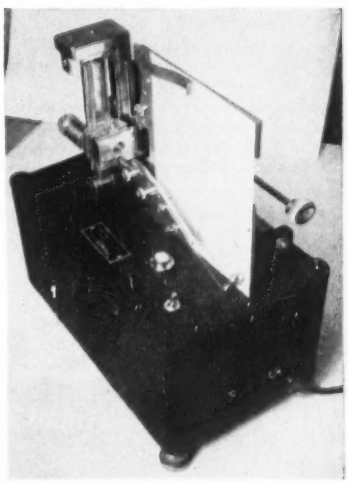
Dean Brown's studies in this subject were initially to improve upon existing fiber test methods in order to eliminate variations being experienced in currently available equipment. The resultant Clemson Tester as finally developed and now made available by Scott Testers accomplishes this objective and incorporates a number of other desirable advantages:

(1) Applies constant rate of load to sample.

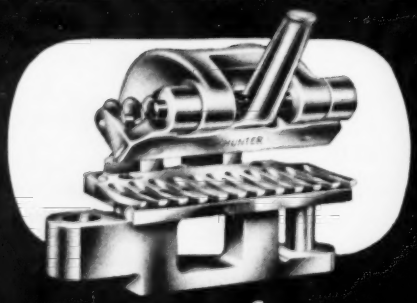
(2) Sample gauge length may be varied from 0 to 10 mm.

(3) Motor driven, with control for either single tensile test or con-

Clemson Flat Bundle Fibre Tester now available from Scott Testers.



NOW THIS UNIVERSAL TENTER CLIP



serves for regular feed or overfeed without pins

Get the facts about the advanced new Universal Tenter Clip*—developed by Hunter, made and sold in United States and Canada exclusively by Marshall and Williams.

ADVANTAGES: Operates on any standard tenter frame as a regular clip or will accommodate overfeeding if frame is equipped with Hunter overfeed device. Can be instantly changed from regular feed to overfeed without shut-down of tenter frame. No changing of chain required—no alteration of machine necessary. Comb-like plate on clip gives uniform and complete drying of selvage.

The cost of this clip and overfeed equipment is very reasonable. Doing away with multiple tentering units reduces floor space requirement by one-half—with all resultant savings. Operating speeds are the same as with conventional clips. Uniform and accurate overfeeding up to 20% easily obtainable.

Other M & W Products

High Speed Tenter Frame & Complete Line of Tenter Clips

Tenterettes — short tenters (30", 80" and 100" long) built to any maximum width, with straight or hinged rails

Swing Plaiters — anti-friction bearings throughout, designed for easy cloth alignment

Let-Off Stands — movable, with casters, or fixed base, swiveling for easy cloth alignment

Batchers — constant tension or tensionless

Send for complete data today — without obligation

*Dungler System

M & W

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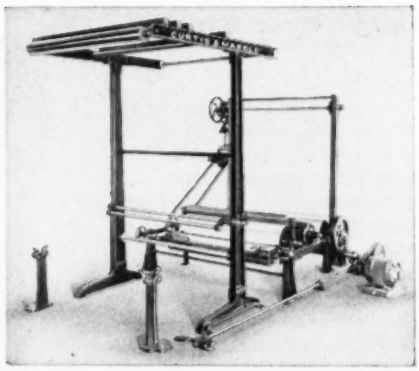
PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.



TYPE DS ROLLING MACHINE

This has two wooden or metal drums 9" diameter on which the cloth rests. Long racks on each side put weight on the ends of the winding roll or arbor. Both racks are simultaneously raised or lowered by means of a hand wheel. A friction device at the top enables any desired amount of pressure to be exerted to make a smooth hard roll. A measuring attachment, spreader roll, screw rolls or other attachments may be added, as required, similar to the cut shown above.

This machine may be run independently either with T & L pulleys or by motor drive, or in connection with another machine.

A roll of cloth 48" diameter can be put up on wooden winding rolls, wooden or steel shells, or paper tubes.

Built in different widths.

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WORCESTER, MASSACHUSETTS.

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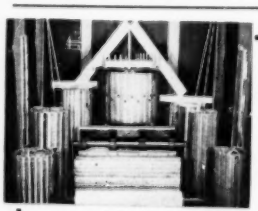
Strip Clean Instantly
Fit Any Sized Roll
Hug "Beat-Up" Rolls Tightly
No Seams—No Frayed Ends
Outlast Paper or Cloth Covers—3 times

Free Trial: Send us an old scavenger roll to be recovered. We will return it to you prepaid and let you be the judge.

We also make: Knit Dye Tubing; Sheepskin and Cloth Clearers; Star Brand ★ Roller Varnish.

THE TEXTILE LABORATORIES

P. O. Box 1003 Telephone 5-2791 Gastonia, N. C.



PROMPT SERVICE on

- **BEATER LAGS for all makes, fitted to order**
- **COMPLETE BEATERS—Kirschner and Plate**
- **ALL TYPE APRONS, both new and reworked, including fireproof aprons**

TODD-LONG PICKER APRON CO.

Gastonia, N. C. Plant 5-4021 Night 5-5149

tinuous hysteresis cycles.

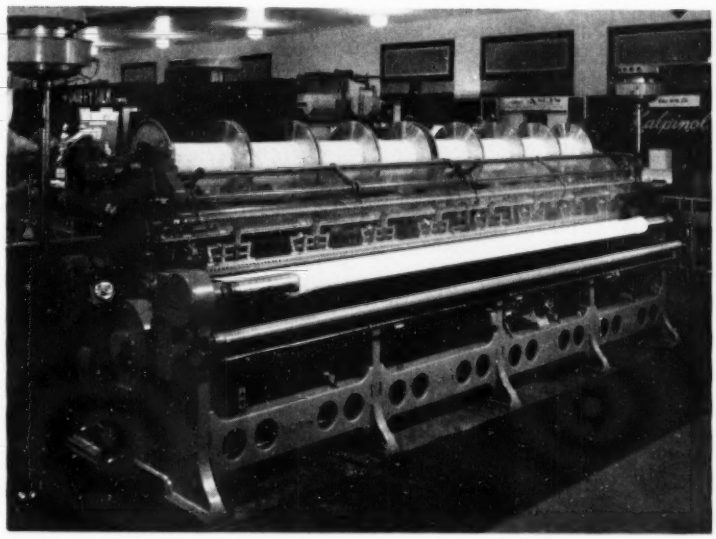
(4) Breaking load and elongation are recorded instantly without lag.

(5) Produces a permanent record, reading directly in grams; useful for filing and reference.

The instrument is readily portable and requires only a single electrical connection to 110-120v lighting circuit and a table space of 15" x 9". The new versatility which this machine provides gives promise of interesting possibilities for the testing of fibers other than cotton.

Scott Testers, Inc., 60 Blackstone St., Providence 1, R. I.

For additional data, request item G-119, using Handy Return Card on page 184.



Whitin Model D tricot knitter on display at the Knitting Show.

Tricot Knitter Capable of Speeds of Over 500 cpm

Speeds in excess of 500 courses per minute are entirely practicable on standard patterns and constructions with the new Whitin Model D tricot knitting machine which has these outstanding features:

Whitin-Diehl Power Transmitter. This driving unit (an inverted type moter utilizing flywheel force for increased acceleration with built-in brake-clutch assembly to disengage these forces for instant starting) gives simple, accurate, and unlimited range of control for inching and jogging. The necessity of turning the machine by hand for setting and checking motion is eliminated. Needle-down position adjustment is accurate and positive.

Yarn let-off motion. Precise yarn control is provided at all times (even when machine is jogged or speed changed) by calibrated unit which may be easily adjusted by turning micrometer thimble dial. Warp beams are positively driven. Tension is constant throughout full length of warp. Because of sensitivity of correction for changing spool diameter, shade marks will not be created.

Cloth Take-Up Motion. Accuracy of control for wide range of fabrics is insured with this unit which automatically compensates for increasing cloth roll diameter. Adjustable by micrometer thimble dial.

Guide Bar Suspension and Lifter Motion. Positive lock-down position of guide bars while machine is in motion, minimum interference with warp sheet, and easy removal of guide bars are some of the advantages.

New interlocking double action device prevents starting machine when bar is in up position.

Pattern wheels are 13" in diameter.

Bijur or Lincoln Centro-Matic lubricating systems can be used.

Either butted or leaded needles.

Whitin Machine Works, Whitinsville, Mass.

For additional data, request item G-106, using Handy Return Card on page 184.

NEW Equipment AND MATERIALS

Hollow Spindle Permits Low Tension Twisting

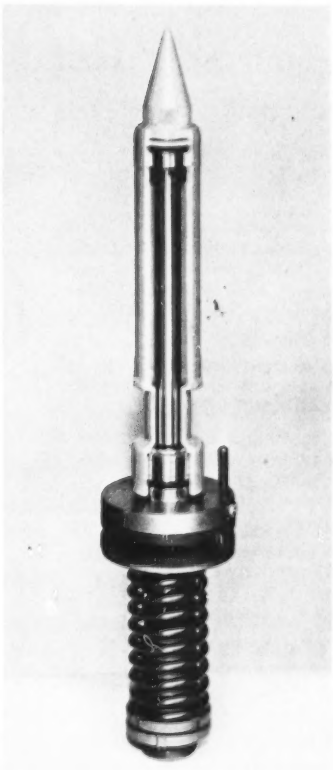
A new method of twisting utilizes a spindle which is stationary and hollow all over its length. Designated the "Sirnach" hollow twist spindle, it is made for driving by band or tape and can be mounted without extensive alterations on existing twisters.

With the spindles twisting is accomplished without flyers, rings, or travelers, resulting in greatly reduced friction and yarn tension, even at very high speeds. For example, in the manufacture of 100 denier rayon crepe yarn with 2200 turns per meter and a speed of 16,000 rpm, the yarn tension would be approximately only 24 to 26 gr. This very low and uniformly steady yarn tension greatly reduces thread breakage.

Production increase of 70 to 100% is possible with these spindles.

On the stationary spindle shaft there is mounted at the bottom on

"Sirnach" hollow twist spindle.



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CORDUROY CUTTING KNIVES

- Supplied in matched sets of 330 knives.
- Precision ground double-bevel cutting edge.
- Finest alloy steel, correctly tempered for long life.
- Accurate to ± .001 tolerance.

ALSO AVAILABLE UNGROUND.

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What your plant can
accomplish
with Vision Screening

We have just made up a report of savings made by 59 plants:

Big savings in *cost of training new employees* (as high as 75%); reduction in *accidents* and *spoilage;* labor *turnover* reduced 30% or more.

Also increased earnings of employees, less absenteeism, and other gains.

Briefly summarized in a Booklet—which we'll be glad to send to any personnel official on request.

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  For the best weaving results—give us a trial on your shuttle fur requirements
- *FREE SAMPLES OF SHUTTLE FUR*
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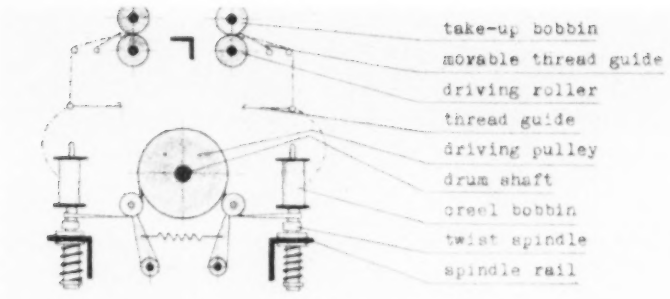
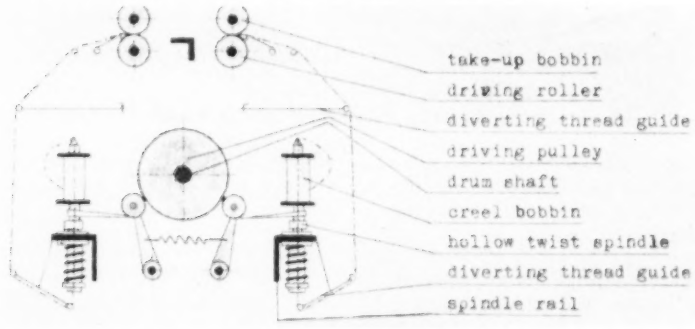


Principle of conventional method of twisting is shown in sketch above. Below is sketch showing principle of operation when the new hollow twist spindle is installed on existing twisters.



a roller bearing and at the top on a ball bearing the revolving bobbin tube which can be run at speeds up to 25,000 rpm, depending upon the fineness of the yarn being processed. At the end of the stationary shaft there is a thread guide motion firmly attached to the bobbin tube. The spindle is attached to the spindle rail by means of a pressure spring fitted with two adjustable tightening nuts.

From the bobbin the yarn being twisted is run over the head and passed through the thread guide motion and then passed downward through the hole in the stationary shaft. On a length of yarn of about 16 in. it will be given its twist by means of the revolving bobbin. The distribution of twist given will thus be very even and the twisted yarn will be very soft.

Studies have shown that a good operative will be able to tend up to 1200 spindles when the creel bobbin holds 600 gr yarn and spindles operate at 12,000 rpm. The machine will have to be tended during one shift only. For the remaining 16 hours of operation it will require incidental control only.

Werner Gabler Co., Inc., 1025 Connecticut Ave., N. W., Washington 6, D. C.

For additional data, request item G-802, using Handy Return Card on page 184.

Large-Area Metallic Electrodes Multiply Benefits from Redox Potentials

Fast response, minimized polarization effects, easier cleaning, and maximum thermal stability are benefits to be derived from use of a new series of large-area metallic electrodes for process controls utilizing oxidation-reduction potentials. Applications include dyestuff control, sewage treatment, and water purification.

The electrodes offer broad surfaces of metal—platinum, gold, silver or nickel—mounted in three basic styles for all kinds of industrial and laboratory service. Their larger sensing area assures fast response, minimized polarization effects, easier cleaning, and maximum thermal stability.

Of rugged construction, the electrodes will withstand temperatures to boiling or above. They can be used with any Beckman pH meter or automatic titrator.

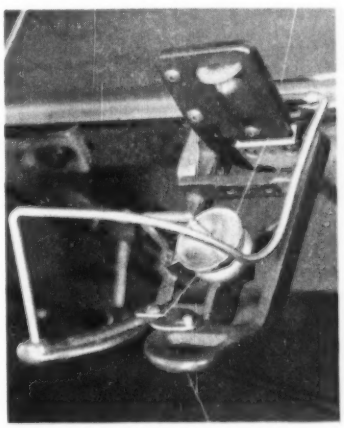
Beckman Instruments, Inc., South Pasadena 1, Calif.

For additional data, request item G-114, using Handy Return Card on page 184.

Slub Catcher Removes Torpedo Type Slubs on Long Staple Yarns

(On display at the Knitting Show)

Developed for the Roto-Coner drum winder is a micro-set slub catcher which provides an effective means for cleaning yarns of such imperfections as hard slubs, gouts, piecings, and double spinning. Its chief value, however, lies in its ability to clear yarns of soft torpedo slubs which are



inherent with yarns spun of long staple synthetic fibers and worsteds.

As its name implies, the device can be quickly and precisely set to any desired opening from .001" to .040" covering a wide range of counts. After it is set by use of a calibrated dial, the slub catcher can be locked, making it tamper-proof and easy to check visually by the overseer. The attachment can be successfully used on many different counts and blends since the sensitivity of the blade can be varied to attain the degree of slubbing found most desirable by the mills.

Universal Winding Co., Providence 1, R. I.

For additional data, request item G-102, using Handy Return Card on page 184.

NEW Equipment AND MATERIALS

Heavy Duty Inspecting, Winding, and Measuring Machine

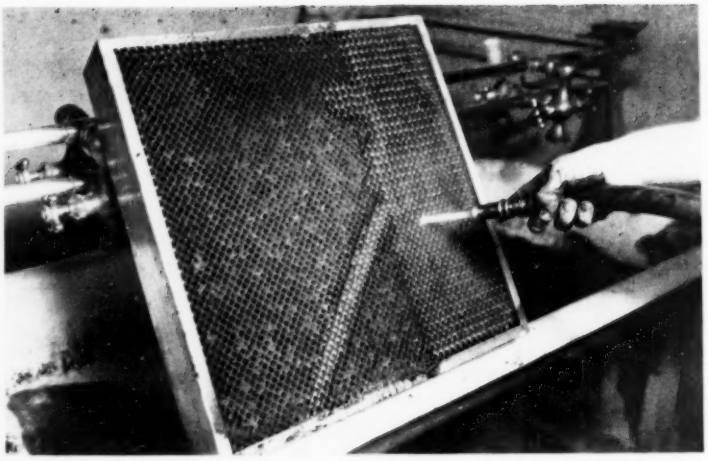
Especially designed to handle large rolls of cloth more efficiently, a new type of inspecting machine has been sturdily designed throughout.

For greater flexibility in operation, there is a variable speed drive with a 9 to 1 ratio. A vertical light box or through-lighting in the inspecting table is available if needed. A reverse wind and automatic over-run prevention brake on the let-off are standard equipment.

The frame is of 5" channel steel, to take the weight of 36" rolls of cloth without vibration. All other structural parts are of equally husky construction.

Hermas Machine Co., Hawthorne, N. J.

For additional data, request item G-112, using Handy Return Card on page 184.



Air Filters Easily Cleaned with Cold Water

High efficiency and low maintenance are advantages of E-Z-Wash Air Filters which are of the viscous impingement type.

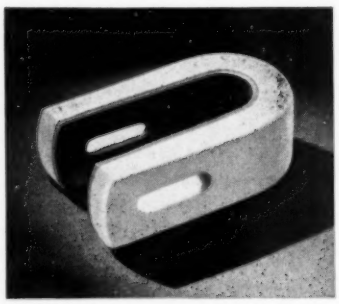
Made of aluminum or other light sheet metal as the specific application may require, the filtering media is a honeycomb with large, smooth-walled air passages. As a result, it is less readily clogged by lint, and easily washed clean with an ordinary garden hose and cold water.

Continental Air Filter Co., Louisville, Ky.

For additional data, request item G-803, using Handy Return Card on page 184.

PICK ARM LUG STRAP — Another Fine Rice Dobby Product

HARRIS "Heavy Duty" Lug Strap
Leather and Fibre Adjusting Strap
Special Braided Loom Cord
"Wirecore" Loom Cord
Improved Dobby Bars
Dobby Pegs



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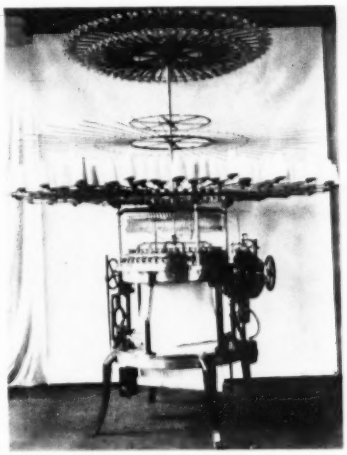
Precision-Built Kentex Aprons made to any specifications, on short notice. Write for free samples and prices. We are world's largest manufacturers of genuine leather textile aprons.

TEXTILE APRON COMPANY

EAST POINT, GEORGIA

Hugh Williams & Company, Toronto Canada—Canadian Representative

30" Balbriggan Knitting Machine Available



Now on the market is a 30" diameter balbriggan knitting machine with either 48 or 64 feeds. Because of the yarn supply on the machine, it is advisable when using two ends per feed to limit the feeds to 48.

Machine is equipped with overthrow guard cams under the cylinder stitch cams, and with adjustable knock-over cams on the sinkers or welt holders to enable the machine to knit uniform stitches.

Electric stop motion, electric hole detectors, and individual motor drive are other features.

Wildman Mfg. Co., Norristown, Pa.

For additional data, request item G-301, using Handy Return Card on page 184.

Combination Electric-Steam Pre-Setter and Twist-Setter for Low Pressure Steam

(On display at the Knitting Show)

Designed especially for hosiery manufacturers and throwsters with low pressure steam, a combination electric-steam pre-setter and twist-setter has been developed.

Electric heaters are provided to enable the operator to reach higher temperatures than can be reached with low pressure steam.

Humidity is furnished by the steam injector utilizing low pressure steam. This results in faster, more thorough, uniform conditions which are reflected in uniformity of product.

To effect the most positive and trouble-free control of temperature and humidity, this box is equipped with an air operated wet and dry bulb recording controller.

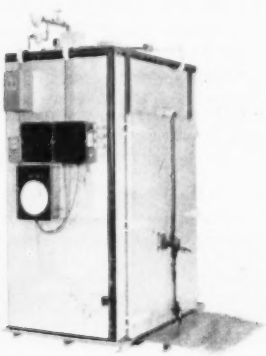
Exhaust system is positive and efficient, making it possible to exhaust heated air and humidity from the box to the out-of-doors at the end of the conditioning cycle. This helps air conditioning system and cools material prior to unloading.

Automatic timing equipment enables operator to secure accuracy, ease of operation, flexibility, and repetition of cycle from day to day by merely pressing a button.

Lydon Brothers, Inc., 85 Zabriskie, Hackensack, N. J.

For additional data, request item G-104, using Handy Return Card on page 184.

Lydon electric-steam pre-setter and twist-setter.



Nylon Garnet to Blend with Cotton for Denims

Garnetted nylon designed for blending with cotton and processing on the cotton system to produce yarns for use in the production of denim fabric for work and play clothes, has been developed.

The addition of nylon garnet will increase the strength and abrasion resistance of denim to provide longer-lasting finished garments. Easy washing, quick drying, and non-matting are other properties imparted to

IHE opens the door to Profitable Resin Curing!
DIRECT FIRING
Pays Off in Top Efficiency
IHE Resin Curing Machines, direct fired with either gas or oil, give wider temperature range and more positive temperature control than with steam. The tension control features of this machine make it ideal for embossed goods. Easily adaptable to curing of water repellent and wrinkle resistent resin finishes. IHE can also supply machines for curing latex treated fabrics. If you have a special curing problem, let IHE engineers consult with you.
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Industrial Heat ENGINEERING CO.
121 CLEVELAND STREET, GREENVILLE, SOUTH CAROLINA

the fabric by the addition of nylon, and there is little if any noticeable change in its appearance.

Star Woolen Co., Cohoes, N. Y.

For additional data, request item G-108, using Handy Return Card on page 184.

Stylus Actuated Counter for Fabric Design Analysis

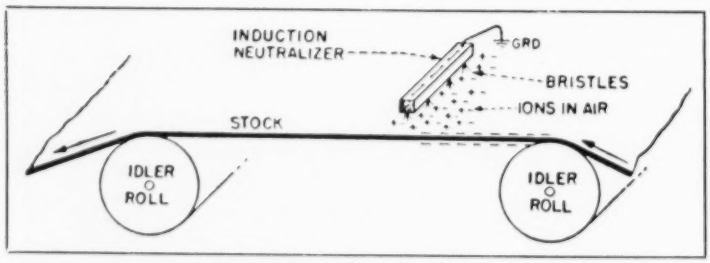
Especially useful for carpet and Jacquard fabric manufacturers is the Trumeter "Stylus" counter for use in analyzing the design of fabrics.

The counter consists of a pencil-like tube with a built in micro-switch. A light pressure on the small, movable tip makes a contact. The counter can be placed next to the magnetic counter which will register once for each impression of the stylus. A special quick lever resetting device is provided so that after every color change it can be brought back to zero by one flick of the lever.

The counter can be plugged into any outlet, and will operate on any voltage; it can be made for low voltages.

The Trumeter Co., 1265 Broadway, New York 1, N. Y.

For additional data, request item G-110, using Handy Return Card on page 184.



How the "Magic Wand" static eliminator functions.

Static Neutralizer Bar Needs No External Power

A self-energizing induction type electrostatic neutralizer bar called the "Magic Wand" requires no external source of power and offers these additional advantages: low cost, small space required, no health hazard, long service life, no maintenance cost, lowest electrostatic capacitance, no sharp points which might damage stock or injure operators, static efficiently neutralized regardless of how high the voltage of electrified stock or how fast the processing speed of such stock.

Small tufts of wire bristles are spaced a certain distance apart along

Kali Kalamines

. . for yarn, piece goods, tops, and raw stock.

These Kalamines are substantive softeners that are highly resistant to oxidation and yellowing in storage, with the added feature of possessing valuable anti-static properties.

Kali Kalamines applied in the last rinse after dyeing or bleaching, exhaust completely to the fiber—soften and protect the goods through several launderings.

Two New Kali Kalamines:

KALAMINE A—is anionic, will not affect shade of dyed goods—compatible with bleaching agents and can be added directly to the kier, for cottons.

KALAMINE C—is cationic; may be used on all fibers. Especially recommended for wool and wool-synthetic blends.

Write for descriptive literature.

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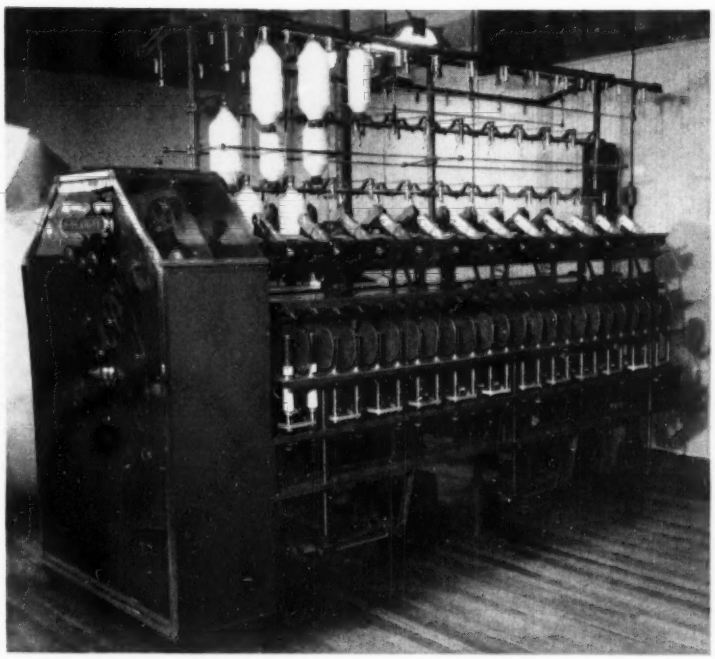
522 FIFTH AVE., NEW YORK 18, N. Y.
920-923 MONTGOMERY BLDG., SPARTANBURG, S. C.
European Agent, Ralph L. Hedara, 101 Réaumur, Paris 2

a wooden bar with the bristles composed of small diameter, spring-brass wire. These tufts, located an inch or so from the stock, are in turn grounded to the processing machine. Ionization of the intervening air between the neutralizers and the electrified stock occurs from the voltage induced on the grounded wire bristles from the electric field of the static electricity residing on the stock. Wire bristles are energized only when stock is electrified. The higher the electrification of stock, the more ionization of the air occurs.

Herman H. Sticht Co., Inc., 27 Park Place, New York, N. Y.

For additional details, request item G-804, using Handy Return Card on page 184.



The Dodenhoff ring spinning frame.

Ring Spinning Frame Features Adjustable Traverse, All Gears in Head End

Main features of the Dodenhoff ring spinning frame are the head end, adjustable sampson supports allowing a traverse range of 8-11 inches, and top suspension arms adaptable to use of any single or double belted drafting system. Design of the top and bottom roll assemblies also provides for adjustment to run up to 2¾" staple with gauges of 3", 3½", 4", and 4½".

The anti-friction top rolls are individually spring weighted and suspended from the top arm. A snap action release allows each arm to raise independently for ease in cleaning, removing lap-ups without cutting, and easy removal of the rolls for recovering. No cap bars or nibs are used.

The head end is a completely enclosed unit housing the builder motion as well as all gearing, including the draft and twist change gears. The draft range is from 10-60, and the twist range is from 10-80. Silent chain and helical gears are used throughout the drive for smoothness and quietness of operation, and the elimination of backlash on the start-up.

The gearing mounted on sealed ball bearings is readily accessible and requires only one wrench to adjust any gear or bracket. A sump pump system of continuous lubrication is also incorporated in the head-end housing.

With the exception of the bottom fluted roll, lubrication will be required only once a year.

1½" diameter solid steel sampson supports are adjustable and permit the roller beam to be raised or lowered to give the 8-11" traverse range.

The frame is also designed for

Orr
SLASHER
Cloth
With Special
Chemical Treatment
Something New and Better

● Slasher Cloth is an important maintenance item in a cotton mill. With the introduction of ORR Slasher Cloth with Special Chemical Treatment, many of the problems which have pestered the slasher room foreman have been eliminated.

The slasher room foreman, in order to satisfy the superintendent and the cost department, must have available a Slasher Cloth that:

1. Dresses the yarn properly.
2. Holds its width. No shrinkage.
3. Maintains level production performance.
4. Starts fast — lasts long.

ORR Special Treated Slasher Cloth maintains uniform dressing properties, resists bacteria and steam degradation, maintains dimensional stability. Discuss your Slasher Cloth problem with your ORR representative.

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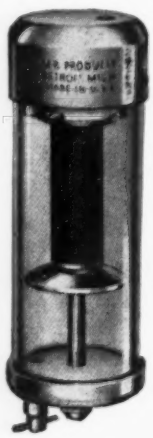
Industrial Woolens by Orr

STARTS FAST — LASTS LONGER

IF YOU HAVE WATER, DIRT OR SLUDGE IN YOUR AIR LINES Use the NEW "M-B"



AUTOMATIC
AIR LINE FILTER
— Model W-1 —

Amazing performance is accomplished by using angular air inlets which develop a centrifugal action, abstracting the moisture and throwing it against the wall of the bowl, from where it runs to below the baffle plate, definitely capturing it to be drained. RIBBON TYPE FILTERING UNIT removes solids 10 microns (.00039") and larger. Bowl is transparent plastic, thus all foreign matter filtered from the air line is visible, eliminating guesswork as to when filtering element should be cleaned or bowl drained. No water, dirt or oil in compressed air that has passed through the filter. . . . This piece of equipment gives maximum protection to Scott and Williams Lint Blowers, and Blow-off of the Knotting Device on Barber-Colman Spoolers, also Abbott Winders and Blow-off hoses in Weaving and Spinning Rooms. . . . . This new Filter affords our "Amoskeag" Pneumatic ROLL PICKER, Model A.V.T.A., or similarly operated equipment, maximum protection.

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HAPPY?

A happy Traveler is the one used with the proper fibre, thread or yarn.

Keep your Travelers happy by using the right size, circle and style for *your* particular work, and note the results.

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Box 803 Fall River, Mass.

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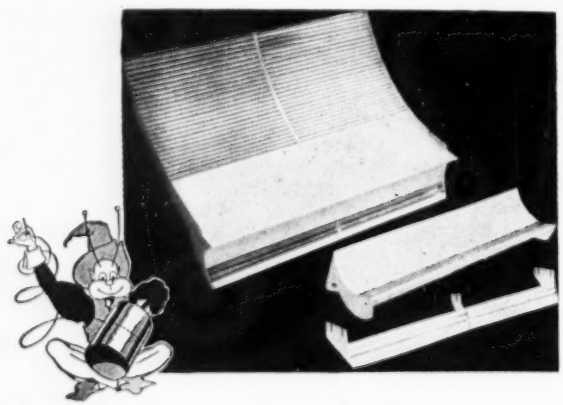

Check Your Card Screens!

You can't produce top grade products without precision fitted Screens. SIMS is equipped to repair your re-usable equipment or to furnish you with replacement parts. Check your equipment now . . . then call SIMS.

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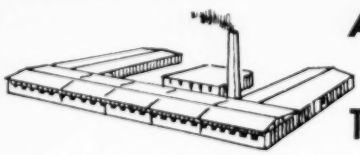
WEST POINT, GA.



Attention! all Textile Mills!

We can meet any Filling Winder requirements for weaving lightweight as well as heavy duty fabrics such as conveyor belts, cotton duck and tire fabrics.

Simply send us a small supply of your yarn and we will wind and return with Test Wind Report and Catalog.

WATCH FOR EARLY ANNOUNCEMENT OF REVOLUTIONARY DEVELOPMENT IN LAZENBY AUTOMATIC COP WINDER

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Knitting and Warp Yarns

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4's to 30's

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adaptation of any air suction system in place of the scavenger rolls, as well as providing for installation of an underframe cleaner. An umbrella type creel is used with top suspension bobbin holders, and antifriction spindles are included as standard equipment.

W. D. Dodenhoff Co., Inc., Greenville, S. C.

For additional data, request item G-115, using Handy Return Card on page 184.

U. S. Textile Machine Company's triple deck twister.

Two-for-One, Triple-Deck Twister

(On display at the Knitting Show)

A 100 per cent increase in production, a 25 per cent power saving, and a floor space requirement of only 3 sq ft more than a conventional model are advantages of a new two-for-one, triple-deck twister with 300 spindles (6-in. space) now available.

Speed of the dual twisting spindles, which were developed and patented by The Duplan Corp., is 13,000 rpm (equivalent to 26,000 rpm). Theoretical production when twisting 30 denier nylon at 27 turns per inch is 388 lb per 120 hr. Package size is ½ lb; running time, 47 hours.

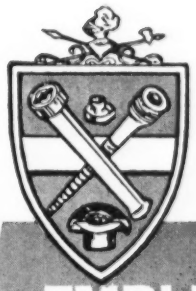
U. S. Textile Machine Co., Scranton, Pa.

For additional data, request item G-101, using Handy Return Card on page 184.

Test Cotton Fiber Length 400% Faster

The new motor-driven "Servo-Fibrograph," a precision optical phototube instrument that scans parallel cotton fibers to determine length and other factors that influence proper classification, is an improved model of the manual electronic Fibrograph 132.

The Model 132 depended largely on the skill of the operator who manipulated two wheels to trace the curve from which the data is taken. Now the human element is removed from that phase of testing as smooth Servomotors automatically take over the job of tracing the curve more quickly



The EMBLEM OF QUALITY METAL SHIELDS

For Spools and Bobbins

Anderson Shields are dependable protection against chipping, splitting, and breaking of spools, bobbins, and paper caps. Even the most minute details are carefully worked out to make Anderson the highest in precision, the smoothest in finish, the best in performance. The Anderson Emblem is your assurance of the finest shields you can buy.

Insist on Anderson when you order metal shields regardless of when you buy spools and bobbins.

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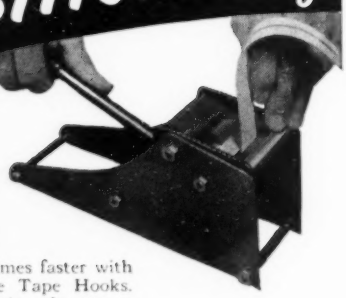
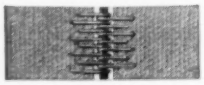


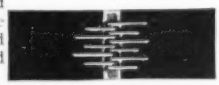
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



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PRESS BUTTON AND SPRAY
For Relief from
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GASTONIA, N. C.

and more accurately.

Another advantage of the new model is that it frees the hands of the operator for preparation of new samples and interpreting the curve while the machine is operating. This, together with increased speed of automatic curve tracing, actually speeds up testing 400%, and in many operations one machine does the work of three old models. Inexperienced personnel may be used to operate the machine.

Special Instruments Laboratories, 1003 Highland Ave., Knoxville, Tenn.

For additional data, request item G-113, using Handy Return Card on page 184.

Small Parts Visible In New Storage Cabinets

Small parts stored in "Haz-Bin, Sr." storage cabinets are always fully visible. Each transparent drawer is a crystal-clear showcase. Molded - in slots with adjustable and removable dividers make it easy to arrange a single drawer into four different compartment sizes. Drawers may be quickly removed from frame and carried wherever needed.

Two types are available: cabinet with all-plastic frame permits seeing through frame and into drawers; all-steel frame. Four-drawer tiers may be added to the all-plastic type cabinet.

David Maimin & Co., 633 Arch St., Philadelphia, Pa.

For additional data, request item G-123, using Handy Return Card on page 184.

High Filling Production at Low Cost with Automatic Winder

(On display at the Knitting Show)

Continuous, high production of perfect filling bobbins at low cost is automatically obtained with the Foster-Muschamp "Autofill" winder as long as the supply of yarn and empty bobbins is maintained.

Capable of speeds up to 6000 rpm, the unit features constructional simplicity and freedom from mechanical troubles. Working parts and controls are easily accessible, and the units consisting of four sections are compactly built.

Other advantages of the automatic filling winder for cotton, wool, rayon, and worsted yarns are:

(1) Yarn layer locking device prevents sloughing;

(2) Adjustable automatic bunch builder;

(3) Mechanical diameter control eliminates broken filaments — no discs, no cups;

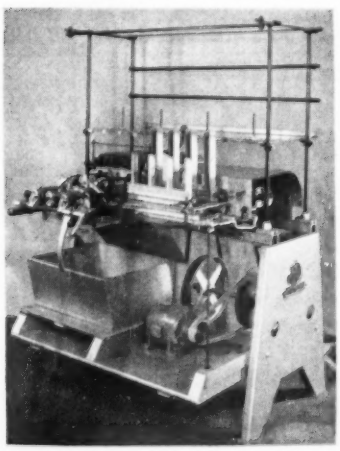
(4) Constant spindle speed, positive drive;

(5) Skilled operatives not required.

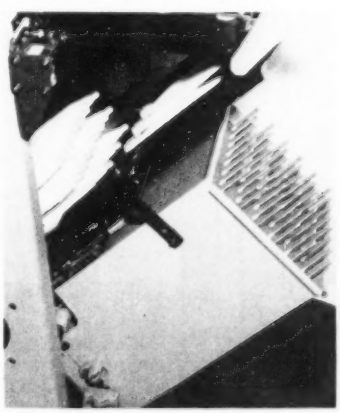
Foster Machine Co., Westfield, Mass.

For additional data, request item G-107, using Handy Return Card on page 184.

Foster-Muschamp "Autofill" winder.



This pinboard attachment can be furnished with the machine.



NEW Equipment AND MATERIALS

New Books

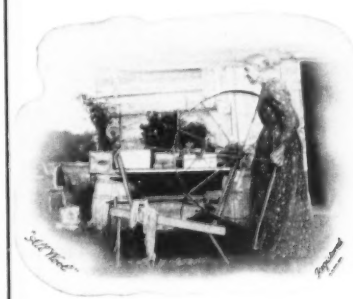
The Intelligent Use of the Microscope, by C. W. Olliver, tells how to use the microscope intelligently, possibilities and limitations of the instrument, principles of its design, and precise functions of its components and accessories. Published by Chemical Publishing Co., Inc., 212 Fifth Ave., New York 10, N. Y. (price, $4.00).

A complete explanation of the ion exchange method is contained in **Ion Exchangers in Analytical Chemistry,** by Olof Samuelson, according to John Wiley & Sons, 440 Fourth Ave., New York 16, N. Y., publishers (price, $6.50). Deals with: fundamental properties of ion exchange resins, ion exchange equilibria, and kinetics; techniques of ion exchange separations for analytical purposes and ion exchange chromatography; and a wide variety of applications.

Cellulose — the Chemical that Grows, by William Haynes, relates

EDWARD H. BEST & CO.

Est. 1888 Inc. 1901



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P. O. Box 1970 Tel. 5-4820

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for accurate cloth guiding at top tenter frame speeds

- ☑ **Works at highest speeds** . . as fast as you want the tenter frame to go.
- ☑ **100% pickup** . . keeps up with fast runouts . . works perfectly with over-feed.
- ☑ **For any cloth** . . heaviest woolens to lightest gauze . . pins or clips closer to selvage.
- ☑ **Non-Contact** . . only a breath of air touches the cloth . . lint-free . . cannot clog.
- ☑ **Easy to Install** . . pin or clip type tenter frames . . attached without extensive machine changes.
- ☑ **Easy to Maintain** . . your own men can keep it going . . no electronics.

For further details, ask for Bulletin 161

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MILTON • PENNA.

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MODERN THROWING EQUIPMENT

• CONVENTIONAL • HIGH-SPEED • HEADLESS PACKAGE • TAPERED PACKAGE

DOUBLE DECK TWISTERS
four types to meet your specific requirement

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Latest book of the series "U. S. Army in World War II" is the volume on the wartime operations of the Quartermaster Corps—**The Quartermaster Corps: Organization, Supply, and Services, Volume 1,** by Dr. Erna Risch. This first of three volumes covers activities of the corps in the zone of the interior. Two later volumes will describe its operations in the war against Germany and Japan respectively. Development of army clothing, personal and organizational equipment, and procurement policies and procedures are some of the subjects covered. Available from Superintendent of Documents, Government Printing Office, Washington 25, D. C. (price, $3.25).

Henry Gilman's **Organic Chemistry: An Advanced Treatise** was recently completed with publication of Volumes III and IV by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y. (price $8.75 each).

Want More Information on These Items?

Use Handy Return Card on page 184, giving Key Number (G-600, etc.) which appears after the name of the supplier of the item in which you are interested. Or, if you prefer, write supplier direct. Several of these were on display or announced during the Knitting Show.

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Dexter Chemical Corp. (G-220).

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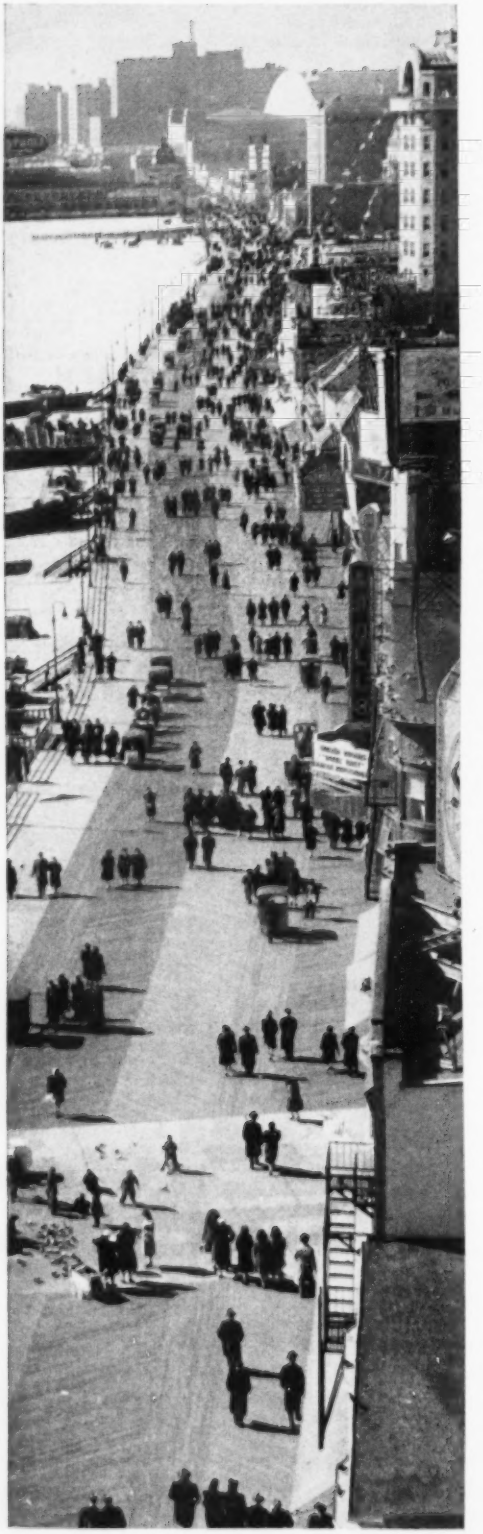
Young Aniline Works ..... *

We'll See You in Atlantic City April 1954



April 1954 is some eleven months away, (give or take a few days depending upon your location and whether you read TEXTILE INDUSTRIES advertising pages promptly which we hope you do).

That sounds like a long way off and a lot can happen in eleven months, but time has a habit of passing quickly and the chances are pretty good that you will be operating in 1954 with much the same production problems and worries as today.

In Atlantic City, April 26-30, 1954, the American Textile Machinery Association is planning the largest and most impressive exhibit of textile machinery, equipment and supplies ever held in the U.S.A. It is not too early to start planning your own attendance and that of your key personnel at this exhibition.

"Biggest," "greatest," "most efficient" are typical American bywords, but it is true that the textile industry in the U.S.A. is the greatest in the world from a production standpoint. It is also true that machine speeds and productivity per operative have made possible a relative wage scale in the textile industry unmatched in the rest of the world.

This record is due to GREATER PRODUCTION EFFICIENCY. It is the only answer to rising wages, social pressure to keep raw material prices high and textile prices low as basic necessities (clothing and house furnishings). Also, it has been made possible through close cooperation between textile mill personnel and the machinery and equipment manufacturers that supply them. *Continued progress depends upon continued cooperation.*

It is not too early to think about which of your own key personnel who are responsible for production and operation and who know machinery and equipment should go to Atlantic City in April, 1954. Plan ahead for this exhibition.

Don't postpone needed improvements and expansions this year because of the show. The advertising pages of TEXTILE INDUSTRIES; the engineers and salesmen of machinery, equipment and supply manufacturers will continue to bring you regularly the latest developments for increased production efficiency.

There are other fairs and exhibits such as the Knitting Arts Exhibit now in progress, the Textile Recorder Exhibition in England this fall, and the Greenville Show also in 1954. Attend all of them you can.

But figure on Atlantic City, April 1954, as a part of your over-all budgetting and planning for GREATER PRODUCTION EFFICIENCY.

We'll see you there.

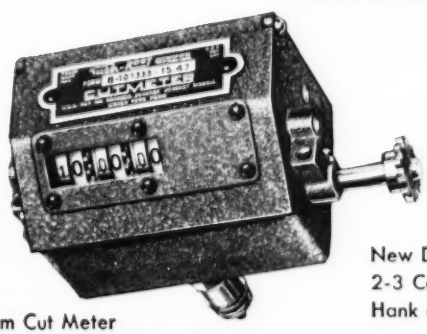
Textile Industries

It's Clean-up Time

...RIGHT NOW!

That's right! Time to check up on the counters all through your mill . . . and figure out what you need in the way of *new* Veeder-Root Counters . . . as well as additional shift-units for present counters . . . and general servicing and repair. Look over your counting equipment with a modernizing eye. Then let us know what you need. And those counters that need service . . . send them in to us *now*.

Double-wheel Counter



Loom Cut Meter

New Design of
2-3 Convertible Pick,
Hank and Knitting Counters

VEEDER-ROOT INC.

"The Name That Counts"

HARTFORD 2, CONN., Tel: Hartford 7-7201 • GREENVILLE, S. C., BOX 297, Tel: Greenville 3-1371

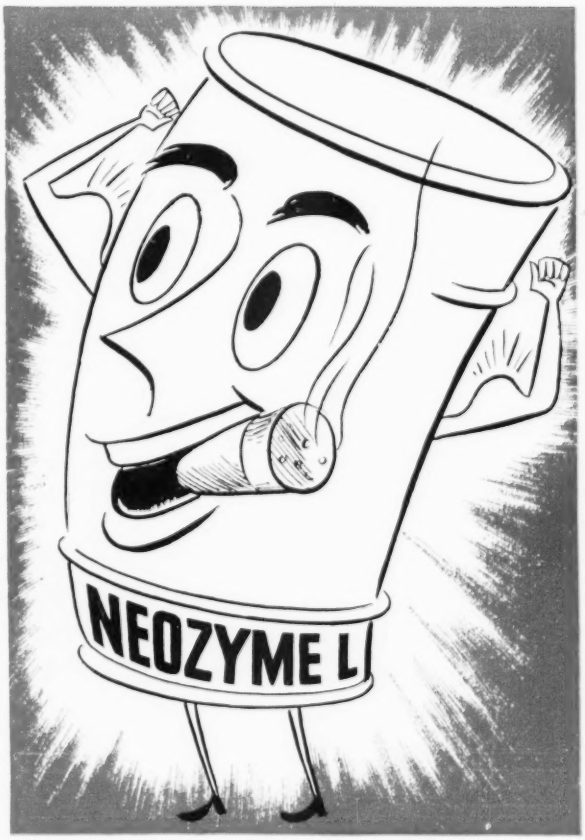
I used to be just a "darn good" LIQUID desizing agent. Everybody liked me!

Then one day I was called into the front office. They thought I could do an even better job. So they sent me to the lab for a complete going over.

And now I've got so much power I can really lick my weight in "wild costs"!

That's right! Old favorite NEOZYME L has a new lease on life – through HIGHER CONCENTRATION. Now a little goes a *much longer* way – AT NO INCREASE IN PRICE!

SAVES EXPENSIVE STORAGE SPACE. SAVES TIME IN HANDLING. PUTS *REAL EFFICIENCY* INTO EVERY DESIZING OPERATION and gives you all these PLUS features too:



- **SUPERIOR HEAT STABILITY**... at 160° F. – better than other liquid commercial enzymes.
- **RESERVE POTENCY**... addition of common salt increases bath potency... and saves NEOZYME!
- **CONTROLLED QUALITY**... strict Royce laboratory control guarantees safe, stable, uniform products.
- **COMPLETE SERVICE**... the Royce Technical Service is always available to help solve your desizing problems.

Prefer a powdered desizer? Ask for data on powdered NEOZYME and NEOZYME HT. Or for a standard liquid desizer, NEOZYME SPECIAL.

Write today. We'll gladly send you full information and data sheets.

ROYCE CHEMICAL CO.

Royce

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Manufacturers of Chemicals for the Textile Industry

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